

# MANUFACTURERS' RECORD

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## Manufacturers' Record.

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### THE ST. LOUIS EXPOSITION.

The Manufacturers' Record will be represented at the exposition by Mr. Albert Phenis, its Southwestern representative, with office in the Missouri Trust Building.

### EDUCATIONAL LABOR LOST.

The Manufacturers' Record has received a copy of the circular-letter of Chancellor Wm. W. Smith of the Randolph-Macon System of Virginia, enclosing a splendid free advertisement of Who's Who in America, explained as follows:

I am authorized by the United States commissioner of education to offer you for publication the enclosed advance sheet containing an article which is to appear as part of his next annual report. You can see that its preparation has involved much labor, and that the conclusions which the facts seem to establish are important and of large public interest. As the voluminous report of the commissioner will be delayed for a considerable time, this advance publication will be welcomed by readers interested in education.

The advance sheet, entitled "The Education of 10,000 Successful Men," is endorsed by Commissioner W. T. Harris of the bureau of education, to the effect that its "estimates have been verified carefully in this office, and are believed to be substantially correct." It says that the more than 10,000 men included in Who's Who "have won enviable distinction" or are "most notable in all departments of usefulness and reputable endeavor," and that education is woman's "only door to eminence." The conclusion of Chancellor Wm. W. Smith from his "statistics" is that, all reasonable allowances being made, the more school training the American boy had in the period between 1800 and 1870 "the greater were his chances of distinction."

The only conclusion from Chancellor Smith's "statistics" is that Who's Who in America, by process easily explainable, and implying by no means that the authorship of a book or notoriety in the newspapers in one department or another of "reputable endeavor" is real and lasting distinction, managed to get into its collection of 10,704 practical autobiographies the sketches of 7709

men who had college or higher education, and that the facts set forth by Chancellor Smith are not especially "important and of large public interest." That his essay is to appear in Commissioner Harris' next report by no means strengthens the value of the essay or the value of the report to persons "interested in education."

P. T. Barnum was not college-bred, but he had more world-wide repute than any man in the Who's Who collection.

The Manufacturers' Record may suggest that the publishers of Who's Who in America ought to endow Commissioner Harris and Chancellor Smith for life in return for the planting in the daily newspapers of this free advertisement of Who's Who in America.

### FAST TIME ON RAILROADS.

A recent cable dispatch reported the remarkable long-distance run of a fast mail train between Plymouth and London, England, the distance of 247 miles being covered in 237 minutes, an average of less than a minute for each mile. It should be observed, however, that this notable record was really established on the last 118 miles of the journey, that distance being covered in 99 minutes.

The true test of locomotive capacity and endurance, as well as of track and roadbed, is made by such long-distance runs. High speeds are common enough for short runs. There is hardly an express train on any first-class line in America which does not in daily service attain for a while speeds of 70 to 80 miles per hour, but mile-a-minute through runs are almost as scarce as hen's teeth.

In the South some of the fastest running has been done in the Florida winter service by the trains of the Atlantic Coast Line and of the Seaboard Air Line. The Southern Railway has also made some very high records in running its Southwestern trains, but fast runs for long distances can be maintained regularly only with track that is not only heavily railed and ballasted, but easily graded and curved, as well as with the most powerful express engines and the best running-gear for the cars that money can provide. In addition to all this, there must be such a system of signals that engine-drivers will be assured of a clear track for a certain distance whenever they receive the word to proceed.

We may expect to see mile-a-minute through runs in the South and Southwest about as soon as in any other part of our country. The development of these sections has given a great impulse to the building and improving of railroads, and the wide stretches of territory to be traversed between centers of population tend to increase the demand for higher speed. As traffic conditions warrant more and more expenditures will be made upon the great lines of transportation that will result in a very high development of track, which is the very foundation of all practical efforts to provide high-speed express service.

### COTTON AS THE DOMINANT WORLD-INDUSTRY.

The annual meeting of the American Cotton Manufacturers' Association, which is being held in Washington this week, makes timely a few facts regarding the development of this industry in the United States, as well as some broad general estimates of the magnitude of the cotton-manufacturing industry of the world. In 1846 a noted economic authority on cotton said:

We are now to speak of the introduction of cotton into Europe, an event which has had such amazing results and which has exerted it is difficult to say how large an influence upon society and upon governments. The wealth and power of Great Britain, acknowledged and felt by all the world, have a nearer connection with the cotton plant and cotton-manufacturing than with any other branch of industry and enterprise whatever. McCulloch is thrown into ecstasies with the reflection and is at a loss to find language to express himself.

And after referring to McCulloch's review of the industry he quotes him as follows:

Little more than half a century has elapsed since the British cotton manufacture was in its infancy, and it now forms the principal business carried on in the country, affording an advantageous field for the accumulation and employment of millions upon millions of capital and of thousands and thousands of workmen. The skill and genius by which these astonishing results have been achieved have been one of the main sources of our power; they have contributed in no common degree to raise the British nation to the high and conspicuous place she now occupies. Nor is it too much to say that it was the wealth and energy derived from the cotton manufacture that bore us triumphantly through the late dreadful contest, and at the same time that it gives us strength to sustain burdens which would have crushed our fathers, and could not be supported by any other people.

Such was McCulloch's estimate nearly three-quarters of a century ago of the supreme importance of the cotton industry to Great Britain. Vast as was its influence then, every year since has seen an increase in its importance and in its power upon the commerce and finances of the world. We are accustomed to count the iron and steel interests as the greatest of all human industries, but cotton—King Cotton, it may justly be called—has a right to dispute the supremacy of iron and steel. The total value of the iron and steel products of the United States in 1900 was \$804,000,000. Mr. James M. Swank, the general manager of the American Iron and Steel Association, in a telegram to the Manufacturers' Record estimates the approximate value of the iron and steel of the rest of the world at \$900,000,000, or total for the world at \$1,700,000,000. In cotton, as in iron and steel, it is impossible to give anything but broad, approximate estimates of the value of the world's product, but in the United States, with 23,000,000 spindles, the total value is in round figures now about \$400,000,000 a year. There are in active operation throughout the world an aggregate of over 110,000,000 spindles. By reason of the finer products turned out by many of the mills of England and the Continent, it is probably safe to estimate the average value per spindle for the world as greater than the average value per spindle in this country. That would give us a total value of the world's manufactured cotton product of over \$2,000,000,000 a year. This estimate is sustained by a comparison of the value of the product in Great Britain and this country, where the figures are at present available, with the relative number of spindles in these countries to the total in the world. If we should include the value of cottonseed products and the kindred interests connected therewith, it would be found that the South's cotton crop alone is the basis of industries now producing \$2,000,000,000 a year in cotton and cottonseed output. In the estimate of the iron and steel interests it is not, of course, intended to include the finished product, such as machinery, but simply the value of the product of furnaces, rail mills, forges, blooming mills, or what may be called the primary form of the iron and steel industry. It does, however, include the cost of the coal and the iron ore which go into the manufacture of the iron and steel. On the other hand, the value of cotton goods is estimated purely on the basis of the value of the product of cotton mills. It does not include the several billion dollars invested in the production of cotton, the hundreds of millions invested in the machinery for handling cotton and other hundreds of millions invested in the manufacture of machinery for cotton mills. Taking it even in the broadest scope, it is probably a fair estimate to say that this is the world's greatest single manufacturing industry, and the most far-reaching in its effect upon human affairs. We might destroy our iron steamships and return to sailing vessels, and still civilization would not halt; we might abandon the railroad and return to the stagecoach, and civilization would somehow adjust itself; but destroy the cotton trade, which is the clothing of the world, and civilization would retrograde.

Ten years ago, in reviewing the development of this industry and its possibilities, the Manufacturers' Record said:

This enormous business, creating wealth wherever established, is the prize for which the South has commenced to contend. It is a prize worthy of the most vigorous efforts and energy of any country.

At that time the South had but 3,000,000 spindles. No one can study the growth of cotton manufacturing in the United States since then without being impressed with the remarkable advance. During that period the South has become a real factor in the struggle for this prize. The world now recognizes the fact that the South has indeed entered the race for control of this industry, and while some may affect to doubt the possibility of this section ever becoming the center of the world's textile industry, not believing it possible that with our 8,000,000 spindles we can overtake and surpass England with its 47,000,000 spin-

dles, or, for that matter, counting all Europe as one, with its aggregate of over 80,000,000 spindles, yet the Manufacturers' Record, though it remembers the old saying that "it is not wise to prophesy unless you know," will predict that far more rapidly than most people would deem possible the scepter of the world's supremacy in cotton manufacturing will rest upon the South. All that this section has done in advancing its spindles from 1,700,000 in 1890 and from 4,000,000 in 1900 to over 8,000,000 in 1904 has simply been a beginning. In doing this the South has found its strong points as well as its weak ones; it has found that it can build on a solid rock when it unites ample capital, good business judgment and good location, and it has found that without any one of these a mill will rest on shifting sand and be likely to go down in the first financial storm. This lesson has been well learned, and is a chief factor in the future progress of the industry. In developing this business the South has developed experience—experience in the counting-room, in the superintendent's office, as well as in the mill operatives. It has developed the fact that better labor for this industry than that of the South cannot be found in this country or abroad; that this labor can be trained for the finest work, and it has also developed throughout the South an abiding faith in the value of cotton mills as an investment. With this start it is now prepared to go on with the broad development on safe lines of the cotton industry. The South realizes, however, that there is room enough for all. It knows that it cannot safely push this industry rapidly enough to monopolize it, for if its growth only keeps pace with the increasing consumption of cotton goods this will be as fast as it could well be handled without unduly taxing the available supply of labor and capital. Europe and New England may continue to hold their trade as at present, but the increased production to meet increased consumption will be in the South. The room for expansion based on this only is indicated in the simple fact that during the last 12 years there has been an increase of about 18,000,000 to 20,000,000 spindles in the world, or an average of 1,500,000 a year, with an accelerating rate of growth as the increased consumption per capita of cotton goods throughout the world increases. Comparing the number of spindles in the various countries of the world in 1891-92 and 1901-1902, respectively, we have the following:

Years.	Great Britain	Continental Europe	India	Northern States	Southern States
1891-1892.	45,350,000	26,405,000	3,402,000	13,250,000	1,950,000
1901-1902.	47,000,000	33,900,000	5,200,000	15,000,000	6,400,000

Increase between 1892 and 1902. 1,650,000 7,495,000 1,798,000 1,750,000 4,450,000

These figures show a total in 1891-92 in all other countries than the United States of 75,157,000 spindles, and in the United States 15,200,000 spindles, whereas in 1901-1902 the total for all other countries than the United States was 86,100,000, a gain of 11,000,000, and in the United States a total of 21,400,000, a gain of 6,200,000. This gain of 6,200,000 spindles in the United States was at the rate of 40 per cent., while the gain in the rest of the world was 14 per cent. In the South the increase was 4,450,000 spindles, or 228 per cent., against an increase of only 1,650,000 spindles, or a gain of 3 per cent., in Great Britain. During the last two years the increase in the number of spindles in this country, especially in the South, has been very great, and instead of 6,400,000 spindles, as reported for 1901-1902 in the foregoing table, the South now has over 8,000,000 spindles.

The development of the cotton-mill industry of the United States since 1830 as shown in census reports is indicated in the following figures:

Census year.	Number of spindles.	Number of hands.	Capital employed.	Value of products.
1830.	1,246,503	62,206	\$44,914,941	\$32,036,769
1840.	2,884,631	72,119	51,102,259	46,350,453
1850.	3,633,683	92,286	74,500,931	65,501,687
1860.	5,035,796	122,028	98,585,269	115,681,774
1870.	6,621,571	135,369	140,706,291	177,489,739
1880.	10,768,516	174,659	208,280,346	192,690,110
1890.	14,188,103	221,585	354,020,843	267,981,724
1900.	19,060,952	302,861	467,240,157	339,200,320

Since 1900 there has been a gain in the number of spindles of approximately 20 per cent., mainly in the South, giving this country now in round figures about 23,000,000 spindles, with a proportionate increase in the number of hands employed and the amount of capital invested. The South, starting in 1880 with 607,000 spindles out of a total of 10,768,000, and with a capital invested at that time in cotton manufacturing of \$21,000,000, but a fraction over one-tenth of the cotton-mill capital of the country, has steadily increased until it now has over 8,000,000 spindles, representing a capital of between \$175,000,000 and \$200,000,000.

The relative growth of this industry in the South as compared with other sections is shown by the following table covering the consumption of American cotton, by sections and the total for the country since 1850:

Crop year ending Aug. 31.	Consumption in Northern mills.	Consumption in Southern mills.	Consumption in United States.	Total crop.
1850.	475,702	87,067	562,769	2,171,706
1860.	786,521	178,107	964,628	4,823,770
1870.	806,890	90,000	896,890	3,154,946
1880.	1,572,997	221,337	1,795,334	5,701,252
1890.	1,793,258	546,894	2,346,152	7,311,392
1891.	2,027,362	604,661	2,632,025	8,652,597
1892.	2,194,766	686,090	2,876,846	9,035,379
1893.	1,687,286	743,548	2,431,134	6,700,365
1894.	1,601,173	718,515	2,319,688	7,549,817
1895.	2,082,839	862,838	2,946,677	9,901,251
1896.	1,600,271	904,701	2,504,972	7,157,346
1897.	1,804,680	1,042,671	2,847,251	8,577,964
1898.	2,211,740	1,231,841	3,443,581	11,199,994
1899.	2,190,665	1,269,399	3,589,194	11,274,840
1900.	2,068,300	1,397,112	3,665,412	9,436,416
1901.	1,967,570	1,620,931	3,585,501	10,388,422
1902.	2,060,774	1,587,971	3,988,745	10,650,680
1903.	1,967,635	2,006,729	3,968,364	10,727,559

The highest consumption reported in any one year by Northern mills was 2,190,766 bales in 1892, varying but a few hundred bales from the total for 1893. Since 1892 this industry, as measured by consumption, has been practically stationary, with but few changes from year to year. In 1892, when Northern mills reached their maximum, the South consumed 686,000 bales, and from this it has steadily advanced, until last year the consumption by Southern mills was 2,006,729 bales. In addition to the foregoing figures of consumption of American cotton by American mills, Northern mills used last year of foreign cotton the equal of 130,374 bales, and Southern mills the equal of 13,858 bales.

There are about 110,000,000 cotton spindles in the world, and about three-fourths of all the cotton used by them comes from the cotton fields of the South. Despite the efforts made in other countries to develop cotton-growing, which are but repetitions of similar efforts made during the last three-quarters of a century, actively pushed between 1840 and 1850, and again between 1860 and 1865, the South will continue to hold a practical monopoly of the world's cotton production. It had the energy to create this industry—an energy equal to that which created the cotton-mill interests of New England—and it will have the energy and capital, backed by a century of experience, to retain control of cotton production. The South is adding to its cotton production, now and likely for many years to be on a profitable basis, a great cotton-manufacturing industry. Of this growth so much has been said, and it has, indeed, been so rapid, that the question has often been asked if it has not reached its limit. The answer is found in the simple statement that, supplying three-fourths of the cotton for the 110,000,000 spindles of the world, the South still has only about 8,000,000 spindles and the United States only about 23,000,000. We are still shipping to Europe 60 per cent. of our raw cotton every year, almost as uneconomic as it would be to ship our iron ore instead of turning it into the finished product here. While it may take a few years to adjust the conditions in the South to enable that section to largely increase its cotton production by an increased supply of labor and of improved machinery, it may be accepted that the South will within a few years be prepared to meet the utmost needs of the expanding cotton consumptive requirements of the world. It is not to be expected that the South will ever manufacture its entire cotton production, for when it has reached the point where it consumes in its own mills the 10,500,000 bales which now measure its average crop, the world will be demanding of it, and it will meet the world's demands for probably 20,000,000 bales. But the utilization in its own mills of 10,000,000 bales would mean the employment of a million operatives, the investment in mills and textile machinery of not less than \$2,000,000,000, and the annual output would be worth \$2,000,000,000. Then, indeed, would the South, without monopolizing the world's cotton-manufacturing interests, be the dominant factor, the center of the world's cotton-mill business, producing 20,000,000 bales and consuming at home in its own mills 10,000,000 bales. Both will come about in due time. The South sees before it this prize, rich beyond words to describe, creating wealth beyond anything which this section or any other section has known, and this is the prize—a prize great enough to enrich an empire—for which it has entered the race. That it will win admits of no question.

#### BLAIRISM AND THE OGDEN MOVEMENT.

In a review, unintentionally sneaky, we believe, of that manifestation of the Ogden Movement known as the Conference for Education in the South, the Richmond (Va.) News Leader says:

Nothing was said or done at Birmingham that gave the slightest ground for apprehension that it is proposed or anyone hopes for the materialization of the ghost of Blairism, with the rank and pernicious paternalism it would represent, that was tentatively raised at the Ogden dinner in New York some months ago.

The News Leader seems to forget that the Conference is but a part of the Movement. In its review it pays no attention either to the preliminaries of the Conference or to its aftermath. The preliminaries included exercises at Hampton, which have kept more than one Virginian thinking ever since. At Mr. Ogden's dinner on January 11 last Dr. S. C. Mitchell of Richmond, Va., added his quota to the movement for federal aid in education, which had been "tentative" from the time of the first conference in 1898. He said:

So tremendous is the task of educating the masses in the South, and so vital is this work to the well-being of the nation as a whole, that only national aid can deal adequately with the situation. Such national aid, if given through the agency of the State, according to the illiteracy, and if available only after a minimum rate of taxation has been laid, would work injury to none and incalculable good to all interests. Under no circumstances should I favor a course that sapped the self-reliant spirit of the people or robbed them of the privilege of individual or communal initiative. \* \* \* The principle of national aid has already been applied with admirable effect in the agricultural and mechanical colleges. Because of the quickened interest of our people in the public schools, and because of the prominence into which the Board has raised the whole problem of Southern education, it would be comparative easy today to pass a measure similar to the Blair bill.

At Hampton, on April 20, Dr. Mitchell deprecated the cry of paternalism whenever State or national aid for education was suggested, and said:

Paternalism no longer has any existence save as a phrase. Paternalism in a monarchy is fraternalism in a democracy. The

difference is that a democracy is educative. When we advocate education we advocate something expressive of the innermost spirit of democracy. We are rising from a position of Saxonism to one of humanity in dealing with the race problem.

Subsequently President De Witt Hyde of Bowdoin College, Maine, "declared that when the Blair bill was under discussion many Southern educators doubted its wisdom. Under the circumstances the North did not care to force national aid upon the people of the South. At this time, however, when educational affairs in Dixie were in the hands of such men as Montague, Mitchell and McIver, if those men would get together and make a request for national aid they could get it. They would not get it, however, until the request came."

In the welcoming address to the Conference Col. T. G. Bush of Birmingham said:

Direct aid by appropriations from the United States treasury would, I fear, be harmful, and sooner or later would interfere with the splendid systems that prevail in the different States. Valuable aid in the way of donation of lands to the States has been given in the past, and I think would be helpful in the future to the extent of the government's resources in its ownership of lands within the different States.

That was something of a damper upon the national-aid movement, but it did not prevent Dr. Mitchell from saying at the Conference, and his speech was published in full right under the nose of the News Leader:

If then, the nation wishes to set free the energies of the South, to develop, in behalf of all, the resources of this section; to restore the South to a rightful share in the political life of the whole country; to recover the advantage of the co-operation of these millions of pure Anglo-Saxon minds with political instincts strong, sound and sagacious; to call up at this juncture the reserves of the South and wheel them into the forming-line of the world's advances, it is necessary to hear sympathetically this cry of Rachel, to release the tension of her mother-heart, to bring succor to white and black in their mutual struggle to rise to higher levels of life through popular enlightenment, industrial progress and righteous racial adjustments.

National aid—strictly through the agency

of the State—to elementary education is the enginery that must speedily be called into play. \* \* \* If it was right to use the national arm to free the slave and to clothe him with citizenship, surely it is right to use the same hand to fit him for civic efficiency. Freedom then, fitness now. Adopt what order you may, fitness is as imperative as freedom. Without this freedom is itself a delusion to the negro and a menace to the white man.

On his return from the Conference, and in reply to the question, "What do you think of the proposal of Professor Mitchell of Richmond to have the negroes educated by the federal government?" Dr. Edwin A. Alderman, president of Tulane University, a primary member of the Southern Education Board, and at the head of "the educational campaign" in Louisiana and Mississippi, said:

I think it proper. While it is a confession of weakness on the part of the South that she cannot lift the burden, it is true, nevertheless. The South has too much to do in educating both whites and blacks. She should have aid. The salvation of a democracy lies in educating all the people. The Federal Government pays a hundred million and more for pensions. Why can it not educate the children? The South is increasing in prosperity and wealth, but a generation will pass before she can meet this problem. Meanwhile let the Government help.

I do not mean that this plan should be confined to the negro alone. The Government should see to the education of all the illiterates by a compulsory law. Nor should the Government do it alone. Congress should pass a bill appropriating money to different States in proportion to their illiterate population, the State to contribute a certain share of the amount. This would, I believe, be better than the historic Blair bill, though retaining the same central idea. However, the details I have mentioned are only a few.

Staff correspondence from the Ogden party in the New York Tribune said:

There was some expectation that the question of national aid for education which some Southern teachers have at heart would be agitated, but it was scarcely mentioned. Dr. Mitchell spoke of it as a proper and needful expenditure for the general welfare, while Congressman Bowie of Alabama dismissed it as one of the goods which the South by opposition or indifference had lost probably forever. The Conference took no action on the question, but teachers in every part of the country are plainly thinking of it more and more.

In a review of the Conference in the New York World it was said:

It was Prof. S. C. Mitchell of Richmond College, one of the foremost publicists of Dixie, who spoke the most important word at this conference. He urged that the federal government be asked to aid.

The Brooklyn Daily Eagle said editorially:

The speeches of this closing session were in favor of national aid to the schools of the South. Years ago objection was made to that policy on the ground that the Southern people did not want education, and that it would be a mistake to force it upon them by national taxation. In recent years, however, the South has proved its interest in education by heavy tax rates to support schools for both races. The fire has been kindled now, and aid extended by the national government would not be in the nature of help offered to people too indifferent to help themselves. The problem is a large one.

These extracts should demonstrate to the News Leader of Richmond that its impression about the revival of Blairism is incorrect, even if it limits its view merely to the Conference, and does not, as it should, extend it to the whole Movement.

The Hartford (Conn.) Courant, which is consistently and vigorously contesting this menace, suggests that possibly a good deal more would have been said about the subject in the Conference if it had not been for Colonel Bush's speech and for what has been said in the newspapers. But the reason why no more was said is to be found in a statement recently published by the Vice-President of the Conference and the "Executive Secretary Associated with

the President" of the Southern Education Board. Referring to a resolution in the first Conference he writes in tortuous style:

It will be noted that this resolution is not, in a technical and explicit sense, an acceptance of the proposal of national aid as a formal element in the policy of the Conference; but that suggestion is given a cordial measure of approval. In the third Conference a more explicit declaration in favor of national aid was first accepted and then withdrawn. The proposal from that day forward has gained increasing consideration, and yet there has been much unwillingness to make the suggestion an explicit part of a formal program. It has seemed right, as well as wise, that those who accept it and those who reject it should remain—without the introduction of a divisive issue—as collaborators in the immediate practical advancement of the general program of educational revival.

The question would undoubtedly be a divisive one, for its only possible end has been epitomized by Mr. Charles A. Gardiner of New York, who proposes that Congress should appropriate millions to be distributed throughout the nation from the basis of illiteracy and would—

**Endow the Bureau of Education with supervisory powers \* \* \* so that it can make education compulsory, fix the courses of study and direct instruction into any channel—industrial, intellectual, moral or religious—that the citizenship of any locality may particularly require.**

That sentence should be printed in black-faced type to confront every proposition of the Ogden Movement for national aid in education.

#### AN AUTHORITY MUCH AWRY.

The New York correspondent of the Philadelphia Press, who writes over the nom de plume of "Holland," generally presents in his letters, which deal mainly with business interests, facts of value to the busy man, who must make his study of trade and commercial statistics at second-hand. But once in a while "Holland" makes such a break as to illustrate how far away a writer can sometimes stray when discussing things with which he is not familiar. His letter in the Press of May 4 undertook to deal with cotton. In that he displayed a lack of knowledge about the thing of which he was writing that is somewhat amazing. Starting out with some reference to the fact that Mr. Morgan is now, on behalf of the government, paying \$50,000,000 for the Panama canal, he says:

It may be said with almost literal accuracy that the increased price received for the cotton crop of the United States of last year over the price in the previous year was of itself sufficient, probably more than sufficient, to meet that obligation.

Now the increase in value of last year's cotton crop over the year before, according to the official figures of the census, was \$158,652,000. "Holland" was only two-thirds out of the way, but to be only one-third correct is a very high rating compared with some of the other statements in the article, which in the main seems to have been based on statements credited to Theodore H. Price, whom "Holland" says "is now recognized as chief among economic authorities upon this subject." This statement hardly equals in correctness the one relating to the value of the crop. If anyone has ever before charged Mr. Price with being an economic authority on cotton it has escaped our attention. Mr. Price seems to be a very expert handler of figures relating to cotton production and consumption whenever it suits his plans to be either a "bear" or a "bull," but as to being "chief among economic authorities" upon cotton, that is a new honor which we imagine Mr. Price has never thought of claiming. At least, for

Mr. Price's credit, even as a cotton speculator, much less if he is to be classed as an economic authority, it is to be hoped that most of "Holland's" other statements did not emanate from him.

Referring to the need of fertilizers by Southern farmers, "Holland" says:

They need fertilizers, and they send to Chicago or Baltimore for these products. \* \* \* By a systematic and combined effort there might be erected at convenient points in the various cotton States great plants for the manufacture of fertilizers, so that the expense of transportation from Baltimore or from Northern cities where fertilizing products are made would be saved.

It never seems to have dawned upon this writer that fertilizer factories dot the South from Virginia to Mississippi; in fact, they are found in every part of the South where fertilizers are largely used. Baltimore capitalists are interested in fertilizer factories, but most of the factories these days are located in the South. Years ago they were mostly in Baltimore. Swift and other Chicago people are interested in fertilizer factories, but the factories are in the South; in fact, the development of the fertilizer business in the South during the last 10 or 15 years has been really one of the most remarkable features of the advancement of this section.

Instead of buying their fertilizers in Baltimore and in Chicago, Southern farmers, with the exception of sales made by a few factories in Baltimore, are buying their fertilizers in Norfolk and Wilmington and Charleston and Savannah, and at interior points throughout the entire central South. The capital invested in the fertilizer factories in the South runs into many millions of dollars, as every intelligent man keeping in touch with American interests is supposed to know. Here is a paragraph which would puzzle Mr. Price or any other "recognized economic authority" on cotton. "Holland" writes:

In the second place, there is the wastefulness of usury. Since cotton began to be the chief article of commerce of the South it has been a cash product, and it is practically a cash product to this day. The traditions and inherited tendencies of the people of the South have caused them to follow this method, and therefore they have been compelled to seek the nearest financial markets that they may turn their cotton crop instantly into cash, and for that service have been charged what may be called properly usurious rates.

Just how dealing on a cash basis brings about usurious rates of interest we confess our inability to comprehend. "Holland" seems to be like a great many other people well informed on other subjects—densely ignorant when undertaking to discuss Southern matters. Possibly he had some faint glimmering of the crop-lien system, and meant credit where he says cash, and yet he evidently had cash deep in his mind, for he repeats it so often. Then, according to "Holland":

Another cause of extravagance is the absenteeism almost universally practiced by the planters and their families during the hot weather, that being the very time when the cultivation of the crop entails, if it is to be profitably carried on, the closest inspection. Various other extravagant methods are now and have always been in vogue in the South, those already mentioned illustrating the wastefulness of production which is characteristic of the cotton planters as a class.

Hundreds of thousands of cotton-growers, whites and negroes, will be rather surprised to learn that they are guilty of spending the summer months away from home. Here and there one of the larger and richer planters follows the custom of business men everywhere of a summer trip, but it is quite safe to say that 95 per cent. of the cotton-growers of the South spend their summers on their farms, despite "Holland's" re-

markable discovery to the contrary.

Take one more point out of this two-column letter which here and there carries just enough of a half-truth to indicate that somewhere in the writer's brain there was a glimmering of a real fact. That there is great need for better handling of cotton and need of a picking machine and better ginning and better baling is only too well known, but when "Holland" comes down to figures his statements are even a little more amazing than those about the lack of fertilizer factories in the South, the cash system increasing the rates of interest and the absenteeism of Southern planters. Discussing the need of these mechanical improvements, he says:

Mr. Price estimates that it costs \$15,000,000 on the average to harvest the American cotton crop, and that if a machine be perfected which would reduce this cost by half it could be capitalized upon the basis of \$750,000,000 and still pay 10 per cent. dividend.

The Manufacturers' Record has from time to time heard some rather visionary estimates as to what the invention of a successful cotton-picker would be worth, but Mr. Price (supposing "Holland" to quote him correctly), in putting the value of such an invention at \$750,000,000, with the promise to pay 10 per cent. dividends on that, has made it unnecessary for any inventor of a picking machine to use his own imagination in picturing its possible value. Mr. Price or "Holland," we know not which, has done that for him.

No doubt this characteristically incorrect letter, that is characteristically incorrect as to Southern matters, which can scarcely be classed in any other way than "rot," will be accepted by many readers of the Press as the truth. How long, how long, shall the South be used by space writers as a basis to fill up newspapers and magazines, in order to fill up their pockets, with such incomprehensibly incorrect statements as "Holland" has put forth.

**Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 62 and 63.**

#### NEW RAILROADS INCORPORATED

During April there were 14 new railroad companies incorporated or organized in the Southern and Southwestern States, with a total of 2822 miles of line projected. This makes 63 new incorporations in those States since the first of the year, with an aggregate of more than 7000 miles of line projected. It is to be noted, however, that most of the mileage of one of the incorporations during April will be outside of the Southwest, although its point of origin is within that territory. In addition to this number of new companies, the governor of Maryland has approved bills passed by the legislature granting charters to 12 new corporations, with about 500 miles of line projected. This is not included in the above totals.

Missouri witnessed the incorporation of three companies during April. West Virginia, Tennessee and Louisiana two each, and South Carolina, Georgia, Alabama, Indian Territory and Texas one each. The largest project is that of the Interstate Railway, incorporated in Missouri to build a main line from Kansas City to Duluth, Minn., with a cross-line from St. Louis to Sioux City, Iowa, besides branches. This plan will involve the construction of 1600 miles of track, and it is reported that a contract has already been let to begin the work. The next largest plan is that of the Gulf & Pacific Railway in Texas, which

proposes to build a main line from Paris to Velasco, on the Gulf, with a branch to Dallas and another branch to Dayton, making a total of 500 miles of line. The Louisiana Central Railway is another enterprise of some magnitude, having in view the construction of a line from north to south, down through the central part of Louisiana from Monroe via Marksville to New Iberia, about 175 miles. The Fort Smith, Indian Territory & Texas Railroad also promises to construct considerable track, having, according to a recent announcement, decided to build from Fort Smith, Ark., southwest through Indian Territory to the Texas boundary, the inference being that it is intended to push construction onwards into the Lone Star State. The Atlanta & Carolina Railway is a company organized in Georgia to build a trolley line from Atlanta to Anderson, S. C., 125 miles. These are among the most important of the plans announced in April.

The expectation that more new railroad companies would be organized in coal and timber regions was realized during the month, there being at least three such corporations announced. One of these is the Buffalo Creek & Gauley Railroad, which will be about 35 miles long from Clay Court House, W. Va., to Canfield-on-Gauley. Another is the Meadville & Somerville Railroad, to connect those points in West Virginia by a line 14 miles in length, and the Fort Smith, Indian Territory & Texas Railroad, noted in the next preceding paragraph, will touch coal regions in Indian Territory. The Meadville & Somerville line is already under construction. Particular attention is also being given by the Louisville & Nashville Railroad and the Southern Railway to the building of spurs in the mineral region of Alabama for the development of coal and iron properties.

#### OGDENISM BY AN OGDENITE.

A correspondent who traveled with the Ogden party as a guest of Mr. Ogden to Birmingham, in a letter to the Mail and Express of New York, says:

Mr. Ogden's powder magazine not only did not blow up, but its titanic energies are being converted by him into a steadily-moving motive power that is turning the wheels of social, moral and intellectual progress in the South.

Poor, benighted South—a land without "social, moral or intellectual progress" until the advent of the great and mighty Ogden. The foolkiller has evidently retired from business.

#### Want a Cannery.

Mr. W. F. Beall, secretary of the Waco (Texas) Industrial Association, which has been formed for the purpose of assisting small industries to locate in Waco, writes to the Manufacturers' Record that his organization desires to get in touch with persons seeking location for a canning factory and a creamery. He adds:

"We have a beautiful little city here of 35,000 people, and we are growing and improving right along, but want more. We have a fine climate and fine soil in the heart of the cotton belt."

#### Foundry Foreman Wanted.

One of the leading steel-castings manufacturing companies desires to engage the services of a thoroughly competent and reliable foundry foreman for its open-hearth steel-castings plant. Experienced men who believe they can fulfill the requirements of the company referred to can obtain further information by addressing "Foundry Foreman," care of the Manufacturers' Record. All correspondence will be forwarded promptly.

## SULLY STOOD BY SOUTHERN GROWERS.

### His Self-Sacrifice to Sustain the Cotton Market Against "Bear" Raiders.

[Special Correspondence Manufacturers' Record.]

New Orleans, La., May 7.

Cotton discussion in the South is above all other subjects at this time, even more than it was when prices were climbing towards the 15-cent mark in the midst of last season's activity, with a large portion of the spot supply still in the name of Southern holders; it is next to the question of this year's acreage, with its prospective effect on next season's prices, and no phase is more talked about than the Sully case, and the developments following in the track of the Sully failure. New Orleans is the Southern center of the discussion.

That Daniel J. Sully made a distinct impression on the cotton world is evidenced by the conversations that one hears in every cotton market, around country stores, and even on big plantations throughout the cotton South. Yet just what Sully's influence has had to do with the range of cotton prices and the permanent establishment of a level based on supply and demand is not satisfactorily settled in the Southern mind.

Whether the campaign of Sully and his associates on the "bull" side of the market was of a speculative nature or a movement based on sound business principles and a full understanding of the cotton situation is a question that the entire country, people and press are debating with much interest.

Personally, I believe that 12 cents per pound and upward for cotton is warranted by existing and promised cotton conditions, and that Mr. Sully and those that acted with him in recent "bull" movements have rendered the cotton-growing section a distinct service in forcing the South's chief staple to a proper and legitimate market value.

The intention, however, of this article is to discuss the Sully case and associated incidents particularly, and to give certain facts which the writer happens to have personal knowledge of.

Sometime near February 1 the announcement was received in New Orleans that Mr. Sully had arranged his holdings so that he could leave the New York market, and that he was going to spend sometime in Florida. Immediately following this announcement, probably inspired by New York associates, a rumor gained currency in New Orleans that Sully had sold out and was going to leave the market on the idea that cotton had reached an unwarranted level, and that he was satisfied to turn loose and quit at current prices.

A certain element in New Orleans, or, to put it more correctly, the "bear" operators, took instant advantage of the situation following the Sully announcement to break the market and force down prices. Mr. Wm. R. Fagin, a competent cotton man, and thoroughly familiar with Southern conditions, was quick to see the effect of the "bear" movement on Southern cotton holdings, and wired Mr. Sully the facts in full, with a suggestion that if possible to stay in New York and abandon his proposed vacation. Mr. Sully wired back a copy of his physician's certificate, with a statement that he had not taken advantage of high prices to sell out and "throw down" the "bull" contention. This, of course, is not the exact language, but the sense of his message. Mr. Fagin wired Mr. Sully that he fully understood the situation, but there was no getting around the fact that if he left the New York market at that time that the South would be a sufferer to the extent of many millions of dollars, and if possible to change his

plans. This telegraphic correspondence was kept up from the middle of the afternoon till midnight, when Mr. Sully wired Mr. Fagin that while there was nothing to warrant the situation as explained in his dispatches, believing it to be true that injurious advantage might be taken of his sick-leave absence from the New York market, he had decided to remain in New York and "fight it out to a finish." This was the exact language of the telegram. The telegraphic correspondence of that night would fill pages of letter paper, and I think it will be conservative to place the cost of the telegraph fees at several hundred dollars. A later and fuller message stated that Mr. Sully had released the private car that he had hired and had put in place to carry his family to Florida, where he was going on a pre-emptory sick or rest leave order from his physician.

That day in February Mr. Sully was worth \$10,000,000 or more.

Today Mr. Sully is worth—let the courts decide, as I have no sort of information on the subject. However, Mr. Sully says that he is not worth a cent, and even his clothes are subject to the decree of the bankrupt court.

I am not defending Mr. Sully, but I was permitted to see the correspondence between Sully's New York and New Orleans office, and I think it only just and fair to give the facts. On that day in February when certain interests undertook to hold him up as a quitter and to use his absence to force down cotton prices, Mr. Sully could have left New York as any other business man could leave his own office, with no motive except reasonable protection of his health and with no just cause of criticism, and a rich man. I have the best authority, amounting to nothing less than the telegrams between New Orleans and New York, for stating that Sully remained in the New York market at the expense of his health and comfort for no other reason than that his presence there would be a value to the South.

Another thing that I happen to know, and I have the records in proof of my statement, that Sully undertook, on his belief that the situation warranted, to run up the price of cotton early in the season when it was in the hands of the growers; also that he issued a circular to spinners advising them to buy their supply early, as the price was going up.

The long and the short of it is that Sully is the most thorough cotton man in the United States, and while he may have taken advantage of certain situations for his personal benefit—call it speculation or what you will—he has been the strong and consistent friend of the Southern cotton-grower, and he is today.

I do not undertake to say to what extent Sully has been a victim of the war being waged by the New York Cotton Exchange on the Southern contingent of cotton handlers centered in New Orleans, who believed that the present level of prices is fully justified by legitimate business conditions, and who have been fighting for a fair and reasonable price for the South's cotton crop, but I do know, not from any man's word of mouth, but from records I have examined, that Sully had tried to play his part to the advantage of the grower and spinner, and not the speculator. If he believed that this was good business, and expected to personally advantage thereby, I can see no reason why anyone should object.

New York has lost its head so far as to

let the world fully understand that it is doing everything in its power to force down the price of the South's cotton product, and if in this effort it has made a victim of Sully, it has done no more than it tried to do with Frank Hayne and Thos. Jefferson Majors without success. The New York Exchange tried last July to squelch Frank Hayne without success for the reason that Mr. Hayne was able to develop a strength and standing that they were unable to withstand, and later Mr. Majors, with the same conditions and consequences.

While none except those on the inside have ever been permitted to see the record of the celebrated New Orleans cotton pools of recent date, I was taken into the confidence of that courageous aggregation to a sufficient extent to ascertain that during the New Orleans "bull" campaign, with which the world is familiar, Thomas Jefferson Majors was to a considerable extent the largest individual cotton holder in the pool. Throughout the entire campaign Mr. Majors carried the largest individual account of any member of the pool, and while the world generally does not know it, and therefore Mr. Thomas Jefferson Majors, gentleman, merchant and citizen of high standing and creditable record, was refused membership in the New York Cotton Exchange until that anti-South, anti-cotton body was compelled by influence, of which it was afraid to undertake to meet, to admit him.

This is not Sully's defense, but Sully's justification.

This is not advice, but a few suggestions based on a winter's study of cotton conditions in New Orleans that the South might take as a cue and use to some advantage.

LEE J. LANGLEY.

### PLANTERS BUY LEVEE BONDS.

#### Typical Phase of the South's Prosperity Through Cotton.

[Special Correspondence Manufacturers' Record.]

Greenville, Miss., May 6.

"The levee board met today and disposed of \$60,000 of the levee bonds, the purchase being made by A. J. Aldridge, a cotton planter of Arcola, in the Deer Creek district, near this city. The bonds brought par. Mr. Aldridge offered to take \$20,000 more at 98 cents, the next highest bid to his, but the offer was declined by the board."

The above is the substance of a special dispatch that went the rounds of the daily press under a Greenville date line a few days ago, and the story of the South's prosperity could not be more fully told in volumes. Five years ago the cotton planters of the South could not pay cash for bread and meat, and today they are able to buy bonds and other securities high up into the thousands of dollars.

I met Mr. Aldridge on the streets of Greenville today, and he talked interestingly on the subject of his bond purchase and conditions in this section generally. He is perhaps 55 or 60 years old, well educated, shrewd and progressive, and belongs to that type of business farmers of which there are thousands in the South. Mr. Aldridge said:

"All there is about the bond purchase is that I happened to be present when the bids were opened, and hearing 98 cents announced as the highest bid, and knowing them to be good property, and having the money in bank, with no other use for it, I offered par for \$60,000 of the bonds. I offered to take \$20,000 more at 98 cents, which was the next highest bid to mine, but the levee board thought they ought to bring par, and I didn't get them."

"It was my first intention to buy and open another plantation with the money that I put into the bonds, but I found on investigation that the field-labor supply

of this section is already exhausted, and that it would be out of the question for me to find efficient labor for another place.

"There was a time when the hill country furnished the delta quite a supply of labor, but that source is now practically exhausted; it is going to factories and industrial enterprises instead of coming to the cotton fields. There is a good deal of talk about increased acreage throughout the country, but as far as this section is concerned any considerable increase in acreage would be impossible, as labor could not be obtained to cultivate and gather the crop.

"I fully agree with the views expressed by Mr. Frank B. Hayne and others in recent issues of the Manufacturers' Record that it makes no difference what acreage is planted this year, there will not be more than 10,500,000 or 11,000,000 bales gathered. It must be remembered that it takes three times as much labor to harvest the cotton crop as it does to plant it and cultivate it, and I do not believe that there will be sufficient labor available this fall to pick more than 10,500,000 bales. The year 1888-89 was an unusual picking season, picking being kept up in this section till April, and yet there was less than 11,500,000 bales gathered. There is not as much farm labor in the South today as there was in 1888-89, and what we have is not as efficient as that we had then. The negro labor on which the cotton States has to largely depend has benefited by the recent high prices of cotton and the general prosperity of the country as well as the white people, and a negro well fed and well clothed is a poor field hand. The negro labor of the South was decidedly more efficient when cotton was five and six cents a pound than it is today. In addition to this, large numbers of negroes have left the farm and gone to oil-mill, railroad and other public works, while a considerable percentage of the white field labor has gone into cotton factories and sought other forms of industrial employment.

"Another feature of the cotton situation is that the danger of the boll-weevil is, in my opinion, greatly minimized. The boll-weevil is pursuing its course across the cotton section with a steady persistence that I am afraid it will be impossible to check till it has completely covered the cotton States. Cotton production is also being retarded by the increase and extension of different species of choking and uncontrollable grasses. So as a lifelong cotton-grower who has studied the situation from every viewpoint I have no apprehension whatever about lower prices on account of overproduction.

"The most interesting feature of the cotton situation at this time to me is the war that is being waged between New York and New Orleans for the supremacy of the market, which in its last analysis is a fight between the 'bulls' and the 'bears,' and New Orleans will win. New York has seen its day in the domination of the cotton market."

I asked Mr. Aldridge what he thought about Sully, and he promptly replied: "I think that Sully has rendered the South valuable service, and that if he needs it and wants it the cotton States should see him through and put him on his feet again. The production of cotton is not and has not been for sometime, and will not be for sometime to come, equal to the demand, and the present level of prices is fully warranted, and Sully's campaign on the 'bull' side of the market helped to force it to its proper level."

Mr. Aldridge is a native Mississippian, and has lived on a farm all his life except a few years spent in Greenville. In 1872 he came to Greenville with \$1.25 in his pocket, which constituted his entire cash assets. He worked here as a bookkeeper

for seven years at a moderate salary, and when he had saved enough money to "pitch a crop" he returned to the plantation, and has been a cotton-grower ever since. Since he has accumulated a fortune he has acquired business interests in this city which occupy a part of his time. He is now cultivating about 1500 acres in cotton, all of which he rents out entirely to negro tenants. He is well educated, and is a close reader of all the best publications of the country. He said to me today: "I know the Manufacturers' Record well. I have taken it for several years at my oil mill, and read it regularly with both interest and profit."

Mr. Aldridge's plantation has been the basis of his present generous fortune, and I very much wish that the industrious farmers of less favored sections of the country could hear him tell of the profits attending the intelligent and progressive cultivation of the Southern soil.

LEE J. LANGLEY.

#### BIRMINGHAM MARKET DULL.

##### LITTLE OF INTEREST DEVELOPED DURING THE WEEK.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., May 9.

The market in iron the past week was devoid of all interest. There was a very small demand, and the market was heavy. The orders for iron carrying certain analyses were continued, but they were of limited volume. There was one sale by analysis at \$11 per ton, in which the iron by regular grade would pass only as No. 2 soft. This was the highest price reported for these sales. Some were made at lower values down to \$10.50. While this special quality of iron was bringing the prices noted, regular No. 2 foundry was being offered at \$10 without inducing any business of moment. Some sales were made by one interest covering in one lot 3000 tons, with special analysis for part of it. This was the banner sale for the week. Towards the close of the week one of our leading interests marked down prices to a \$9.75 basis for No. 2 foundry. But the buyers ran from the decline, and the market closed dead dull. Gray forge, if attainable, would bring \$9, and No. 3 foundry is quoted by some at \$9.50 and by others at \$9.25. Basic iron hangs around \$10, with nothing doing in this grade.

There will be a meeting of the directors of the Tennessee Company in New York on the 17th inst., at which officials will be elected for the ensuing year. It will be a matter of interest to the trade to know that the sales agency of the company will move their headquarters from the city of New York to this place.

During the past week articles of incorporation were filed by the Beard Automatic Coupler Co. It is capitalized at \$100,000, and the headquarters of the company will be here. The officers are J. H. Pritchard, president; A. J. Beard, vice-president, and F. M. Lowe, secretary and treasurer. A glass factory at Anderson, Ind., has completed arrangements to move its plant to Anniston, and will bring its full quota of about 100 workmen.

The formation of a company for the purpose of making what is called the sand brick by the Huenneke process is under consideration.

The Birmingham Boiler Works at East Birmingham are priding themselves on being the first firm in the South to make steel buckets. The American Pot Co. at North Birmingham reports its shop full of work and the prospects for a steady business as quite good. It makes a specialty of hardware specialties, and its orders show a steady growth from its inception.

In the shops of the East Birmingham Machine & Foundry Co., ready for the finishing touches, is the largest flywheel ever cast in the South. The weight of it

is 35 tons, and its diameter is 25 feet. These shops are full of heavy work, the most of which is for sugar mills. You will also find in varying stages of completion engines of high power, one being for the Birmingham Railway & Electric Co. of 5000 horse-power, to be installed in its power plant.

J. M. K.

#### IN TEXAN OIL FIELDS.

[Special Cor. Manufacturers' Record.]

Beaumont, Texas, May 7.

Spindletop oil is firm at 51 cents in the tanks, Sour Lake crude is steady at 45, and Batson oil is selling at the same price, with higher figures quoted on large lots. The price situation has not changed much in the last 45 days. To date the producers have been unable to show that production is less than consumption or movement of oil, but a falling off in Batson production has undoubtedly occurred in the past week or 10 days, and it is probable that the new oil now going into storage is about equal to the amount going out through the two ports and by rail. As Spindletop and Sour Lake are showing a decline in production as well as Batson, it may not be many days until the big companies will be buying heavily, and whenever this takes place a better level of prices may be expected.

The pipe-line companies are making large deliveries of oil to the railroads for fuel use and to vessels at Port Arthur and Sabine for shipment to the Northern refineries and to England. Shipments of refined and crude petroleum from Port Arthur and Sabine during April amounted to nearly, if not quite, 900,000 barrels, which is about equal to the combined production of the Spindletop and Sour Lake fields during April. Rail shipments during April amounted to 20,000 barrels a day, some of which was refined oil from the Security Oil Co.'s plant in South Beaumont.

Reports from Matagorda territory, where a strike was reported last month, indicate that there is great activity among the real-estate agents and mosquitoes, but the situation remains unchanged so far as oil is concerned. Although conditions at Matagorda are not now such as to induce the average operator to leave the developed fields in order to try his luck in the new territory, it would be foolish to scoff at the probability of a big strike at Matagorda at some time in the future.

Development at Dayton, the scene of the other strike reported in April, goes on with renewed vim since the showing was obtained last month. Four wells are drilling and all the big operators are watching the place closely. Dayton is 48 miles west of Beaumont; Matagorda is about 150 miles west of Beaumont and 90 miles west of Galveston.

Nacogdoches is attracting more attention than it has in two years. A syndicate of Northern people has secured some land in the field and will shortly start the first well. If pay sand is developed, other wells will be drilled. It is the plan of this syndicate to construct a refinery at the field or at the town of Nacogdoches, 16 miles distant, and refine oil. It is claimed that it will make 65 per cent. of lubricating, 15 per cent. of kerosene and 3 per cent. of gasoline. HOLLAND S. REAVIS.

#### IRON BRIDGES FOR TURKEY.

United States Consul Thomas H. Norton at Harput has reported to the State Department that the governor-general of that vilayet has asked him to secure plans and ultimate tenders from American firms for two iron bridges to be thrown across the Euphrates at Perteg and at Kemur Khan, near Harput. He writes:

"As far as I can ascertain, no effort has been made to bring this matter to the attention of any other foreign firms. Bridges

of modern construction are totally unknown throughout this section. The few existing bridges are either arches of masonry or wooden roadways resting on stone piers placed at short distances apart. There are a few bridges of some length, as at Sivas over the Kizil Irmak and at Diarbekr over the Tigris, dating back many centuries and consisting of successive narrow arches of masonry. I should be greatly pleased to see one of our light, practical, economical iron bridges located in this region. It would serve as an admirable object-lesson in many directions, besides serving as a standing advertisement of American bridge-building."

#### WEST POINT'S OPPORTUNITIES.

##### A BOARD OF TRADE TO WORK FOR ITS DEVELOPMENT.

[Special Cor. Manufacturers' Record.]

West Point, Miss., May 7.

At a recent meeting of the citizens of West Point a Board of Trade was organized for the purpose of improving and developing the rich resources of this city and community. The Board of Trade represents the best and most successful business men of the county. Mr. B. H. Strong, one of West Point's leading and most progressive citizens, was unanimously elected president of the Board, with Messrs. B. H. Strong, J. R. Brinker, Isham Evans, J. A. Crawford, W. G. White, Robt. R. Ellis, Hon. A. D. Crouch, J. P. Unger and J. L. Frenkel, board of directors. J. R. Brinker was chosen vice-president; Isham Evans, treasurer, and H. S. Dodenhoff, secretary.

West Point is situated in the northeastern part of the State, and is possessed of unusual natural advantages, in that it is noted for hospitality, healthfulness, fine mineral and artesian waters, educational and religious institutions and an inexhaustible supply of raw material close at hand. It presents advantages to the homeseeker and investor. We are in position to take care of all classes of manufacturing industries. We have three strong competing railroad lines, two express companies and ample banking facilities.

We have magnificent manufacturing sites that can be had at moderate prices. Our people subscribe liberally to stock corporations, and our city and State exempt them from taxation for a long term of years. Capital seeking remunerative investment or parties desiring to change their present location are requested to closely investigate the opportunities offered here. All inquiries answered and information cheerfully given.

H. S. DODENHOFF.

#### Mining in Tennessee.

The annual report of State Mine Inspector R. A. Shiflett of Tennessee gives the value of the mineral output in that State as \$11,411,497, the amount spent for labor as \$6,154,067, and the average number of employees as 15,819. The leading values were: Coal, \$6,173,724; coke, \$1,693,292; phosphate, \$1,434,660; iron, \$878,900; copper, \$719,714, and marble, \$438,450.

The Louisiana and Texas Rice Millers and Distributors' Association has elected C. J. Bier of Crowley, president; J. E. Broussard of Beaumont, vice-president, and C. A. McCoy of Lake Charles, secretary. There are 43 mills and three dealers in the association.

The Autobiography of an Irish Terrier. Edited by a sorrowing friend, Reginald Pelham Bolton. With illustrations by the editor. Publishers, the Neale Publishing Co., New York and Washington.

This is a form of the animal stories which have been quite popular of late, and will probably bring entertainment to many.

## SURVEY OF THE ST. LOUIS EXPOSITION.

[Special Correspondence  
St. Louis, Mo., May 9.

A flat has been uttered by the exposition management that all exhibits must be in place by May 12, at which time an inspection will be made by President Francis and staff. As failure to be in shape affects the standing of all competitors for prizes and honors, the utmost efforts are being put forth to finish up the work of installation, and such rapid progress is being made that, with few exceptions, it is likely this entire gigantic World's Fair will be found complete on the date named. An army of workmen is kept on the task day and night, and already many of the exhibit palaces present a well-nigh finished appearance. Even on the opening day the marvelously-beautiful spectacle the buildings and grounds affords was worth a long journey to see, and while the processes and moving exhibits are not yet in going shape, as a rule, some 80 or 90 per cent. of the displays are ready for the visitor, and the wondrous beauty and marvelous extent of the fair are fully in evidence.

In the Electricity Building, which is certain to prove a center of powerful attraction to layman and professional alike, further progress was evidenced on the opening day than in any other building outside that of the United States Government, and the installation is already practically complete. Although in Machinery Hall, where there are electrically-driven machines, traveling cranes, etc.; in the Transportation Building, where electric railroads, launches and automobiles are shown, and all over the grounds electricity in some form may be found, it is in the Electricity Building proper that there are gathered the wondrous marvels of applied electrical science which have revolutionized the industries of the world and which make an advance within a few years so rapid that, compared with the Chicago Fair, or even the last Paris Exposition, this display constitutes an almost entirely new department. Along with the very latest inventions and appliances there are also shown the beginnings of electrical machines, so that the student may find spread out before him the whole history of the amazing development. Not far from the original first dynamo ever constructed is the station of the De Forrest wireless-telegraph plant, from which messages may be sent to other stations on the grounds and to the principal cities of the United States as well. An automatic telephone exchange is installed close by the display of the earliest Bell invention, and not far away is an exhibit of the wireless telephone in practical operation. An exhibit of household utensils and appliances for electrical lighting, heating and cooking is neighbor to a display of electrically-driven machine tools, of which the motor is an integral part of the machine. Dynamos and motor-generators, both the largest in the world and of the most recent construction, are among the notable exhibits here, and models and live exhibits of every kind of motor and electrical machine will here be seen. Eighty per cent. of all the exhibits in this department will be in operation, giving a practical demonstration of great utility and absorbing interest. Germany has an elaborate display of electro-chemical processes and products; France shows the finished skill of her artificers and the knowledge of her savants, and the instruments of English make are marvels of finish and exactness. Japan demonstrates the remarkable progress and proficiency her electrical workers have made, showing the many-sidedness of that island nation's advance. A St. Louis firm contributes a display of leading spectacular interest in the shape of a complete working manufac-

tory of incandescent lamps. Electro-therapeutics is richly represented, and electro-magnetic and other electrical instruments complete a section of the greatest interest to physicians and surgeons throughout the world.

The Department of Machinery is struggling with more different kinds of difficulties than any on the ground, and is likely to be well on toward the last to reach finished form. The victim of imperfect facilities for handling and installing their exhibits, a large part of which are of great bulk and weight, it is hardly possible that Machinery Hall will be all complete before the first week in June. There are two immense traveling cranes here, but their operations are confined to one quarter of the building, and the difficulties this entails are demonstrated in the fact that it has taken nearly 30 days to get in place the gigantic 20-inch boring mill of the Niles-Bement-Pond Company, whereas could the traveling crane have been utilized it would have required but a few days to put in shape this entire exhibit, which is to be the largest in the hall. However, when it is finished this department will be to many people of secondary interest to none on the ground. The exhibits here are divided into two classes—the prime movers, or power producers, and the machines for making machines. All of the first class will, of course, be going, and of the second class 60 per cent. will be operative exhibits. In the first class is the power plant for generating the enormous power required for lighting, pumping and for operating the exhibits and concessions of the fair, and much of this plant has necessarily been completed for some time. It requires 54,000 horse-power to do the work. This is some 4000 horse-power in excess of the total present power of the gigantic Niagara Falls plant, and there is nothing in the world that exceeds it except the power plants of the Manhattan Elevated Railroad and the Metropolitan Street Railroad in New York. The department furnishes as an exhibit the three pumps which lift the water that flows over the cascades. Against a total head of 178 feet they lift 90,000 gallons of water a minute, with a maximum capacity of 115,000 gallons a minute, or a daily capacity of 165,000,000 gallons, which is 100,000,000 gallons more than the entire daily water consumption of the city of St. Louis. This fair abounds in the excessive, the superlative, and this water feat is one more achievement in the record-breaking line.

The Transportation Building, which contains the whole history of human and freight transportation, promises to be complete before the 12th. The chief features of this department will be the exhibits of the Pennsylvania and the Baltimore & Ohio railroads. The Pennsylvania will have a full-size section of the North river tunnel and miniature models of the New York city terminals. It has also installed a locomotive-testing plant at a cost of \$100,000. Here will be conducted a series of laboratory tests to prove the comparative efficiency of the latest types of American and European engines, and they will also be subjected to a speed test by revolving the wheels at what would be a speed of 80 miles an hour. As this will be the first exhaustive test ever undertaken along these lines, the results will be of interest to the entire railroad world.

The Baltimore & Ohio Railroad has an exhibit which includes every type of locomotive ever used, including the famous old De Witt Clinton of 1831. A model of the new passenger station at the national capital will also be included in this railroad

exhibit. Pullman vestibuled trains, English and German coaches, street cars, 200,000-pound 14-wheel engines, models of Cunard steamships, all kinds of launches, including the automobile-boat; every variety of automobile and other pleasure carriage will be seen in the Transportation Building. There is also the old stage coach, the ox cart, the pack mule and the gaily-decorated fete cart of Sicily. In addition to about everything connected with the vehicle, materials, equipment, tracks and terminals for every kind of water and land transportation, this department also covers the navigation of the air, and under its direction the interesting series of contests between airships and dirigible balloons will occur during the summer.

The Department of Manufactures occupies two buildings—the Manufactures and Varied Industries Palaces—which have a combined area of 28 acres. Enormous as is this space, four or five times this amount could easily have been filled, so numerous have been the applications for space. Japan, which is in most agreeable evidence all over the exposition grounds, occupies some four acres in these buildings, and yet the Japanese here say they have not unpacked half of their goods, because it has been impossible to secure the space they would require. There are wonderful things without and in these buildings, and here will be seen the processes of making hats and shoes and silverware and many other most interesting displays. But I will miss my guess if the Japanese exhibits do not linger long in the memory of every visitor. Such delicacy of workmanship, such finish and such beauty are displayed in the embroideries, the carvings, the silverware and the pottery that a surprise awaits those even who are familiar with the Japanese stores and the notable private collections of Japanese goods and wares in America. Evidently the Japanese merchants and artisans are here with the intention of making an impression on the arts, industries and commerce of America, and that they will succeed in doing so in a very large way I am strongly inclined to believe. Indeed, I shall be surprised if a Japanese influence, almost a Japanese "craze" in art and fabrics is not one of the most conspicuous national results of this exposition.

The exhibits in the Department of Manufactures will comprise everything for the adornment and comfort of man in his home and his office, and while abroad. One firm has spent \$35,000 in building a model room in which to display \$35,000 worth of furnishings, furniture, draperies, etc., for the home. Commercial furniture will include a display of all the modern time-saving devices in the way of filing cases, etc.

Foreign nations will be in evidence in this department as they never have been at any exposition, and as a spectacle as well as in an educational way this department will prove one of the popular features of the fair. Although these buildings lack a good deal of having a finished look, I am assured by the department chief that the exhibits are practically all on the ground, and that a few days only will be required to put everything in place.

Some unavoidable delays have occurred to hold back the completion of the displays in the Palace of Liberal Arts, the building, by the way, in which the dedicatory services occurred last year. For instance, a printing-press maker felt that he could not refuse a call from a Baltimore fire victim, although he had to send him the outfit he had assembled for the St. Louis Fair. The exhibits here are well in place, however, and even the laggards are expected to have everything in perfect shape by the 20th of May. Printing, lithographing, electrotyping, bookbinding, photography—all these graphic arts will

be richly represented, both in processes and displays. Under the complete group of musical instruments is entered the most stupendous organ ever built, an instrument as large as a brick block, and capable of producing 17,000,000,000 distinct tonal effects. Engineering—civil, military and architectural—receives a large degree of consideration, the three groups containing excellent displays of plans, models and designs. There will be a reproduction to scale of the lighthouse of the Southwest Pass of the Mississippi river, and at its base will be engineering exhibits of apparatus, etc., used by engineers. There will be an extensive array of such machinery as is used in preparing good roads and streets, of rock crushers, new devices for mixing concrete and machines for handling earth. There will also be an outdoor exhibit of steam shovels, piledrivers and wrecking cranes in operation. Wherever possible life and motion will characterize the exhibits in this entire department, and much of interest will be shown. A conspicuous novelty in the Liberal Arts Department will be the Chinese exhibit. At the suggestion of the management, China has here introduced a representation of Chinese life. Models are shown of Chinese in their home life, their work, their play, their costumes and their way of living, their ships and their transportation—everything, so far as possible, relating to the life and occupation of the Chinese is here shown forth, affording a glimpse into China such as has never before been presented at an exposition.

In the Mines and Metallurgy Department the building will contain a very excellent display of the ores, building stones, coal, gems, etc., of this country and many foreign nations, including a good exhibit from Mexico, and there will be in addition a 13-acre mining gulch nearby, where placer and hydraulic mining will be represented and much of the processes of all kinds of mining and smelting will be shown. In the building Alabama's gigantic iron statue of Vulcan will tower to the eves of the lofty roof. The ores and coal of the State are strikingly shown in place about the statue. Kentucky makes a fine display of coal, and the Southern States generally have taken advantage of the opportunity to advertise their resources in these lines. That more might have been done a glance at the exhibits of Pennsylvania and Colorado will suggest, but nevertheless, much attention must be attracted to the showing of the States of the South here make.

The scope of this department includes every feature of the treatment of ores, clays and stones, from locating and marking the mine to turning out the finished product, and wherever possible processes will be shown. The various steps in the mining of gold, silver and copper will doubtless prove of greatest popular interest, but to engineers and builders a feature of the greatest importance will be the cement building, constructed entirely of cement, in which will be exploited the many methods now in use for preparing and mixing cement rocks, and which will contain articles illustrating the uses of cement and equipment for making tests. Not all the features of this department's exhibit will be completed by the 12th, but the main building is in fair order now, and the 1st of June will doubtless see indoor and outdoor displays alike in finished shape.

Forestry, fish and game are included in one department, and in the building devoted to their use there are interesting and instructive exhibits from home and abroad. The Southern States, particularly Louisiana, Mississippi, Texas, Arkansas, Missouri and Kentucky, have made fine displays of woods and timber, and an additional advertisement of the timber

resources of the South is provided by the collective display of the Southern Lumber Dealers' Association. Experiments and demonstrations in tree-planting and forestry will be a feature of the outdoor portion of this department's work, in which the governments of the United States and Germany will take a prominent part. Here Japan is again conspicuously in evidence, maps, charts and photographs demonstrating the great extent to which forestry is carried in Japan, while in the building is an extensive display of Japanese woods and woodwork, including a complete line of bamboo, from the smallest to the largest sizes, and adapted to a remarkable variety of uses.

Along with the woods a complete exhibit of the fish and game of the United States and many foreign countries is shown, some in life, but mainly in mounted form. This department will be in finished condition by the 12th.

In the Agricultural Building there are numerous striking and creditable displays, in which the Southern States show up to good advantage. Arkansas had her excellent display in order for the opening day, being the first to get in shape. Louisiana has a complete rice display, this in addition to the rice kitchen of the Rice Dealers' Association, which is located near the main entrance to the fair grounds. Texas, Mississippi, Kentucky, Missouri also make exceptionally notable exhibits here, and cotton, sugar and rice are fully exploited. In the very center of the Palace of Agriculture 10,000 square feet are devoted to the cotton exhibit, which is participated in by all the cotton-growing States of the South. The exhibit represents the culture of cotton and the various steps in its treatment from the plant to the finished article, and also illustrates the many uses to which cottonseed are now put. The Department of Agriculture is nearing a completed condition, although to this and the Horticultural Building there will be additions all the year as vegetables and fruits ripen. A very extensive display from foreign countries, Canada, Germany, France, Great Britain and even Japan again, is being made in these departments.

The Department of Live-Stock will be very complete, and the work here will be of a practical and generally important nature.

The Anthropological Department will show family groups of primitive peoples, tribes of American Indians, as well as semicivilized barbarous races from the four corners of the globe. Not only the families, but so far as is possible their native conditions are transplanted to the grounds, and they will be seen in their home life, their work and their sport. There will be a full exhibit of aboriginal handiwork, including the most notable collection of basketry and blankets extant. In this department will also be exhibited the Queen's Jubilee presents, which fill 30 large cases and include carved ivory, wrought gold, native gems and finely-set jewels, feather plumes and fans, tooled leather and other rare specimens of the handicraft of the most skilled artificers of the Orient and Occident. Here, too, are the Vatican treasures, sent by special dispensation of the Pope. There will be a model Indian school, and the historical side of the department will trace the progress of mankind from the age of stone to the present time.

In the building of the Department of Education and Social Economy there is a particularly fine exhibit of the manual training schools of the country. The social economy feature includes a model street on the grounds nearby, and the study of municipal improvements will be a distinguishing branch of the work of this department, which also includes the study of industrial problems, the organization of

employers and employed, wage systems, co-operation, etc.

The mere skeleton of what the fair is today and of what some of its striking features will be can give but a hint of all the opportunities there will be in congresses, State days, special events and daily meetings between peoples of distant States and lands for the cultivation of closer business and friendly relationships; can indicate only in the faintest degree the benefits which will follow in countless ways from the more intimate knowledge people will gain of each other's custom of doing things, and of the advantage especially which will inure to the South in a study of world-methods and presentation of the vast opportunities for development in every line which exist in that section today. As the fair-idea develops and the perspective reveals the true proportion of various features, I shall endeavor to make more specific mention of such phases as seem particularly interesting and instructive to Southern interests, for with all its beauty and impressiveness as a show the fair has a significance utterly beyond its pleasure-giving power as a spectacle, and to the student it is indeed a veritable world-university of unrivaled scope.

ALBERT PHENIS.

#### INCREASED USE OF CEMENT.

##### **More Than 30,000,000 Barrels Now Consumed Annually.**

"The growth of the cement industry in the last 20 years is almost surprising," said Mr. R. W. Lesley in a paper read before the Engineers' Club of Philadelphia. "It is hard to believe. The increase in its use can be most readily realized by considering some figures which appear in the 'Mineral Industry' and in other publications of the geological survey. In 1882 we made 17,000 tons of Portland cement in this country and about 1,000,000 tons of natural cement, and we imported about 74,000 tons of Portland cement, or a total of a little over 1,000,000 tons. In that year the total output of pig-iron was about 5,000,000 tons. The total tonnage of Portland cement in 1902 was greater than the total tonnage of pig-iron in 1882, the figures being 6,000,000, as against 5,000,000, and the growth being from 1,000,000 barrels to 20,000,000 barrels in the 20 years between 1882 and 1902, as against the growth of 5,000,000 tons to 19,000,000 tons for pig-iron.

"More marvelous is the growth in the per capita consumption of cement in the United States. In connection with this thought there is the larger thought that this country is growing in permanent works, and cement represents essentially this permanent growth. While iron and steel construction in the shape of bridges and buildings is always a factor of doubt by rust disintegration, and, as we all know, in the case of pipes and conduits, always a diminishing quantity in their carrying capacity, cement is always a plus factor in its growth, as it tends to gain in strength for periods up to 10, 20 and 30 years, and no man has yet tested for a longer period without showing always a plus factor.

"Therefore, when we state what this country consumes per capita it means that the country is no longer young, but is becoming old, and that we are building bridges, pavements, streets and sewers, all of concrete character, to endure for all time, discarding the flimsy timber construction of the past. In 1850, when this country was in its early days, every citizen took home with him from market at the end of the year a little over six pounds of cement. Along in 1860, just before the opening of the Civil War, we were struggling along with about 10 pounds. In 1870, after the war, we carried home 12

pounds of cement in the market basket. In 1880 we had gone through the panic of the Northern Pacific and did not increase very much—only 13 pounds. In 1890 it took 13 pounds of cement to carry the family through for the year. In 1890, after going through the panic and again re-establishing financial conditions, the people wanting permanent improvements, we required nearly 24 pounds of cement per inhabitant in the United States. In 1900 the figure had increased to 91 pounds, and in 1902, from the latest estimate of the population, it takes 119 pounds for every inhabitant of the United States, or about a third of a barrel, to get along during the course of the year.

"These figures simply show that this country is developing in permanent improvements and structures. Taking the figures of growth from the period of 1894 to 1902, the consumption and growth show that this industry has increased 2600 per cent. in less than eight years. During the same period, for purposes of comparison, pig-iron shows an increase of 90 per cent. These figures are almost surprising, and I will be frank to say were surprising to me when first produced, and I speak from pretty long experience in this industry. The total consumption in 1902 of all kinds of cement, natural and Portland, runs close up to 30,000,000 barrels.

"That was a pretty good year in 1902, and the Cement Manufacturers' Association, of which I am the proud president, has come to the conclusion that perhaps we manufacture more material than the market is going to take; therefore we looked around to see what outlet all this cement that we were making was going to find. In going over this question, for my own satisfaction, I have found a number of interesting points.

"The railroads cannot get along without cement; that is assured. They used to try bricks, iron, sand and other materials, but when they came to building these big railroads they could not get along without cement. A few railroad stations are being built of concrete, and as wood is getting scarce, the same material is being used for ties on some of the Western railroads. They use cement floors in their stations, because they find it is the only thing that stands the tramp, tramp, tramp of the passengers; cement gutters, cement curb walks, cement retaining walls, cement roundhouses, cement mileposts. The agriculturalist has cement fenceposts, concrete bins for grain, concrete floors, troughs, reservoirs and walls.

"Concrete is used for factory buildings which are on concrete foundations, and they have concrete pillars when necessary to support the foundations. It is needless to state that when you come to a great city like ours you necessarily meet this material. You see cement sidewalks in front of the buildings. The sewers, gutters and curbs are of concrete. You know you have concrete bridges all over the city, reservoirs made of concrete, water towers and water pipes of the same material, large skyscrapers 8 and 10 stories high, all made of cement and concrete. In modern warfare our ships are lined with concrete to prevent them from sinking when the steel shell is pierced.

"A vessel coming up in a flood in the Delaware some years ago had its steel hull cut to pieces, but good Portland cement concrete under the flimsy steel landed the vessel safely in port. Even to meet the storms of the sea, the waves and the dashings of the elements, when you come to build a lighthouse it is built of cement. When you come to build a seawall it is built of cement. In Chicago, to prevent the encroachments of the lake, they went so far that the waves would wash upon it and it would remain for all time. In mining the timbers are being displaced by

concrete piers. In the lining of petroleum wells concrete is used, and also in coal mines. I have already spoken of the ornamental uses of cement, but I did not have slides prepared to show them.

"By a most ingenious scheme of pouring cement into damp sand in a method analogous to the making of cast iron, the most beautiful effects in sculpture are produced in concrete, and Mr. Mercer of Doylestown is now reproducing garden works and the statuary of Rome and Greece in the colors, form and outline of this material, colored in the most beautiful way and giving the most artistic effects, and at an expenditure absolutely insignificant as compared with stone.

"It is certainly an age of plastic material, of this permanent, enduring, constantly gaining material—a material that is adapted to artistic work and to work of the simplest character, a material that can be used in the most decorative way, and a material that can be used in the strongest and most substantial structures."

#### Kirby Lumber Co.

In an interview at Houston last week Mr. John H. Kirby, discussing the outlook for reorganization of the Kirby Lumber Co., said:

"There is no disposition to abandon the Kirby Lumber Co. On the contrary, the owners are ready to take it out of the hands of the court as soon as the condition and fate of the Houston Oil Co. can be ascertained. The well-known reputation and business standing of the receivers of the lumber company are a guarantee that its affairs will be administered intelligently and its earnings accounted for to the uttermost penny while the property is held by the court.

"They are keeping the men employed and the plants in good operating condition, if doing no more, and this, for the present, is satisfactory to the stockholders, who are not disposed to retire the receivers until some plan for financing the Houston Oil Co. has been carried out.

"No one knows the condition of the latter company—what its liabilities are or what its assets. The Kirby Lumber Co. is a large owner of oil-company stocks, the dividends on which were defaulted nearly a year ago, and which default is responsible to quite an extent for present conditions.

"Large banking houses in New York and Boston have formed committees for the reorganization of the oil company, and are soliciting the deposit of the stocks. It is believed that control of the corporation will be given over to these banks, in which event the concern will be promptly financed, its debts ascertained and paid and the properties taken out of the court and placed under new corporate management. When this is done the owners of the Kirby Lumber Co. will take prompt and decisive steps to restore the latter to its former activities."

#### Big Cypress Company.

The Hebard Lumber Co. of Thomasville, Ga., has applied for incorporation, with a capital stock of \$200,000, for the purpose of operating in timber lands in seven counties in Georgia. It is stated that the petitioners control the great tract of land known as the Okefenokee Swamp, covered with hundreds of thousands of dollars' worth of cypress. The working of this timber and getting it out for market involves considerable draining work.

#### Wants Yellow-Pine Lands.

J. C. Saxton of No. 18 Broadway, New York, writes the Manufacturers' Record that he is in the market for yellow-pine timber lands in Georgia, Louisiana or Alabama.

## American Cotton Manufacturers' Association.

### Interesting Features of the Annual Meeting of the Body at the National Capital.

The annual convention this week in Washington of the American Cotton Manufacturers' Association, which assembled yesterday and will conclude its sessions today, is the most successful of its gatherings since it developed from the Southern Cotton Spinners' Association. Its membership is confined to no section of the country, and this year's applications for election to it are typical of its broad character. In the body which gathered in the Arlington Hotel for the business sessions, and which is to be received today at the White House by President Roosevelt, were representatives of the general lines of industry and trade in the United States directly or indirectly interested in textiles, and the papers presented bore most practically upon various phases of cotton manufacturing.

In his welcoming address Secretary Geo. B. Cortelyou of the national Department of Commerce and Labor sketched the opportunities for the American mills to extend their business to other lands, while maintaining control of the whole market. He was followed by President W. C. Heath, who, in a comprehensive and elaborate address, reviewed especially the movement in the cotton markets during the past few months. In that he took the ground that the price of cotton would remain comparatively high, and based his belief upon the South's inability to increase its crop for some years to come, together with the apparent certainty that the demand will not be less, even if it be not more, than at present. He gave little weight to the effort of several European governments to encourage the growing of cotton in their domains, and while recognizing that there will be an increased acreage in the South this year, he pointed to the fact that there is more acreage planted every year than can be cultivated or harvested. One of his most significant statements was:

"When the price of cotton began to rise last fall, due partially to manipulation, many of us began to cast vile calumnies at the bull leaders, and charged them with being gamblers, and even blacklegs, but one is compelled to ask the question, 'Who were the greatest gamblers, they who bought what they wanted or you who sold for delivery that which you did not have?'"

Mr. Arthur H. Lowe of Fitchburg, Mass., gave a rapid survey of conditions of cotton-growing, cotton manufacturing and cotton-selling. He rehearsed some of the difficulties in the way of quick adjustment when high prices for the raw material are coincident with low prices for finished goods. But he said:

"I believe most manufacturers North and South congratulate and rejoice with the cotton-planters that they have received higher prices for their cotton. This means a great help to a great section of our country. If the conditions to which I have referred are to prevail, the price of cotton will continue to be higher than formerly and cotton-growing will be very profitable and in time cotton-manufacturing will adjust itself to the higher basis. The manufacturer is content to pay a higher price for his raw material when the demand for his product assures him of a price for his product that will give him a reasonable return for his investment, risks and efforts. The adjustment to higher prices and new conditions in any industry are sure to create temporary disturbances."

Mr. F. H. Newell of the United States Geological Survey dwelt upon the great possibilities of power in the streams of the Appalachian South, and Mr. Frederick S.

Greene of New York discussed the extent to which Southern mills have adopted rope transmission of power.

Other papers on the program were by President R. H. Miller, Jr., of the Elizabeth Mills, Charlotte, N. C., on "Fine Cotton Yarn;" by Prof. R. C. Carpenter of Cornell University, on "The Cost of

### PLAIN FACTS ABOUT HIGH-PRICED COTTON.

By PRESIDENT W. C. HEATH of Monroe, N. C.

'Twere not human to feel insensible of the honor and unworthy of the trust to be unmindful of the responsibility of having been called to the presidency of so important an organization as the American Cotton Manufacturers' Association.

To preside over the deliberations of so respectable a gathering of gentlemen from all sections of our common country, representing, as you do, so vast a portion of our country's commercial and manufacturing interest, is a task that I approach with some degree of trepidation. We meet, gentlemen, at a time in the history of the industry which we represent so serious as to be justly denominated a crisis. We can, therefore, bring to bear upon our deliberations nothing short of profound interest in its present status and a deep concern for its future welfare. And while the several gentlemen whose names appear on our program have been assigned specific subjects for discussion, I deem it my duty, as no doubt you do, that I give you such thoughts as in me lie upon several phases of our business that now demands particular attention, and I trust that what I shall say in touching here and there these important subjects may not lie fallow in the rich soil of your minds, but be made by you to fructify into ripened thought far more accurate and valuable than my poor efforts could produce.

I deem it not insignificant that the very first meeting of this association since it became national in name, character and aims is held at the nation's capital, the common ground of a united people, and it is a further favorable augury that so large a body of men from the two great sections that are so deeply interested can come together and make common cause in the great industry in which their interests have frequently been supposed to clash. The romanticists tell us that this is due to the commingling of Southern and Northern blood under the Stars and Stripes when the Spanish flag was swept from the seas, and that all discordant memories were drowned in the tumult and shouting of victory over a foreign foe by the sons of those who wore the blue and the gray. But the more matter-of-fact philosopher will tell you that our era of good feeling has been brought about largely by the contact and intercourse of the business men of the two sections, in which laudable work none have borne a greater part than the men engaged in the cotton-manufacturing business. Mr. Robert Y. Hayne of South Carolina said 50 years ago: "I know of nothing except the Christian religion that can be compared with the influence of a free social and commercial intercourse for softening asperities, removing prejudices, extending knowledge and promoting human happiness." So today we see a mighty people intent upon the great work before them, fully realizing that there is too much of it—too many mines to be opened, railroads to be built, commercial marts to be opened up—for them to waste time in bickering over the mistakes of each or the prejudices of the past.

A few words as to the history and ad-

Power;" by President J. W. Norwood of the City National Bank of Greenville, S. C., on "Cotton Manufacturers' Bank Accounts;" by Mr. W. L. Wells of W. L. Wells & Co., Vicksburg, Miss., on "Staple Cotton;" by President David Clark of the Eugenia Manufacturing Co. of Jonesboro, N. C., on "Cotton Waste;" by William Hayes of Auburn, Maine, on "An Improvement in Cards," and by Theodore H. Price of New York city, on "Economic Methods in the Purchase of Raw Material."

The full text of President Heath's address and of some other papers follow:

### PLAIN FACTS ABOUT HIGH-PRICED COTTON.

By PRESIDENT W. C. HEATH of Monroe, N. C.

vantages of our organization may not be out of place at this time. There was a time in our history when the American cotton manufacturers were so selfish and wrapped up in the management of their respective mills that they were absolutely indifferent as to the doings of others. We now witness a most wonderful change in this respect, and they have begun to realize that a broad view of questions must be taken if they are to reach a position as manufacturers in keeping with our position as producers of the great staple itself.

Prior to the formation of the Southern Cotton Spinners' Association, in 1897, which only had four members in the beginning, I will venture the assertion that there was scarcely one mill-owner who was personally and intimately acquainted with 10 others in the South, and they looked on each other with a certain degree of suspicion. This association grew and increased at a most rapid rate, and at its seventh annual convention, held a year ago, the membership was near 300. It was largely on account of the fact that such a surprising number of our Northern friends had joined us and affiliated with us that we concluded to form a national organization and incorporated as the American Cotton Manufacturers' Association, which I am proud to say is today reckoned with the largest industrial organizations of the United States. Many take no interest in the association, and assign as a reason that they can see no benefit in it, and some go so far as to assert that it is not beneficial unless in a position to control and regulate prices of the raw material and its products, forgetting that a "gentleman's agreement" is worthless and never amounting to more than a rope of sand. Those who take this selfish view overlook the fact that nothing but united action can attain far-reaching and permanent results, forgetting the fact that to ever accomplish results it requires organization and association and a "long pull, strong pull and a pull altogether."

It seems to be an ideal condition when men whose business interests are so closely interwoven as those of cotton manufacturers, regardless of their location, be it North or South, to come together occasionally and talk over their affairs. It is a well-known fact that face-to-face talks will result in great mutual confidence. It brings about a more general interchange of ideas and experiences of every kind pertaining to our business, and is of an immense advantage to each individual participating, and therefore must be beneficial to the entire industry. It must be admitted that the most valuable literature on cotton manufacturing is to be found in the papers that are read at the meetings of the New England Cotton Manufacturers' Association. A review of the papers that have been read before our annual meetings are convincing as to the real benefits of our association. The papers read are, as a rule, from experts in their several lines, and on account of the organization becomes the property of all manufacturers. United industries should co-

operate at least to the extent of giving publicity to every effort which has the same end in view. No industrial organization which has been formed in this country has made such progressive strides or attracted such widespread attention as our association of today, and it is to be hoped that each and every member will use his best endeavor to increase our membership until we shall have included on its rolls the majority of the textile plants of America, and after this be accomplished, the different kindred productions of the mills could be grouped into separate and distinct organizations and managing boards, all of the groups to be covered by the head or general organization, and the advantages would be improved market conditions and the elimination of competition to a certain degree.

And, too, there often come through such association the evidences that by it are stimulated the softer and better feelings and the fraternal impulses that make life better and brighter and more worth the living. We saw such an instance when, through this association large relief funds were gathered almost in a day after the fearful floods that swept away the Pacolet and Clifton mills in South Carolina last summer had been announced through the press, and at which time our Eastern members especially responded so promptly and generously. After all, it is well enough, whether amid the glare of prosperity or beneath the shadows of adversity and the constant friction in business life, now and then to drop everything and meet with our friends and competitors and talk over the questions and issues in which we are all concerned.

### The High Price of Cotton.

Undoubtedly the most serious question that confronts the cotton manufacturers today is the high price of cotton, coupled with the apathy of the goods market to rise in a corresponding degree. Now, gentlemen, in assuming a certain position on this great question, I want it distinctly understood that I do not expect my views will meet with your unanimous approval, and to furthermore say that I am far from taking the position in order to make myself popular with the great farming element of the South, for I am not a politician, nor a seeker after office, and to furthermore add that it is not a selfish position, in which you will agree, when I say that my extensive cotton farm only covers six acres of land. It would seem that if our returns for goods were to increase in the proper proportion to the increase of the raw material there could be no objection on our part, particularly since it be remembered that good prices for cotton go largely towards throwing trade balances with the world in our favor, increasing the prosperity of the cotton States to an untold degree, and consequently increasing the purchasing power of the entire home market. Now, the truth of the whole matter is that right here we have acted unwise. When the price of the staple began to rise last fall, however much the case might have been due to other things, everybody knew that all those causes were based upon the fact that according to all human wisdom the supply was going to fall short of the demand. But instead of accepting, at least tentatively, this fact and beginning to try to correspondingly bulk the manufactured article, we all took the opposite course and became voluntarily raw-cotton bears, and, consequently, manufactured-cotton bears. And since the market, resisting the combined assaults of the manufacturers of the world and the strongest speculators living, struggled upward in spite of all to a height which seems dizzy to shorts, we have, as manufacturers, our losses, from a yet irresponsible market, for our pains. As manufacturers we should have accepted the situation of a rising

market. Instead of that we persistently, continuously and emphatically advertised to the world that it was our opinion that the increasing price was purely manipulation, and far beyond intrinsic value, thereby effectively educating the public, the great converters, jobbers and consumers up to the idea of withholding their purchases because prices were abnormally high, and were bound to decline. Under such circumstances, it seems to me that our customers would have been fools to take more of our goods than absolute necessity drove them to. This thing of bearing the market on the raw material, as you have done, is therefore a weapon of doubtful efficacy in the hands of the manufacturer. It works from the breech as well as the muzzle. Have you ever heard of the great grain millers of the West, when wheat was high, advertising to the world that it was too high, and that the price of flour must inevitably decline? No, they accept the situation as they meet it and advance the price of flour in keeping with the price of wheat, and when there is an overproduction of flour they resort to a curtailment of their output as a means of meeting the situation. I shall assume several positions in which I am sure I shall not have the agreement of many of the gentlemen before me—first, that a comparative high price of cotton is permanent, and second, that this should be helpful instead of hurtful to the manufacturer.

Periods of depression in our business, due to various causes, are not at all uncommon, but past experiences have demonstrated that they always adjust themselves, and may we not then ask ourselves the question whether or not we have laid too much stress as to existing conditions to the high price of cotton. I claim that the inexorable law of supply and demand has established the high prices, and that, eliminating the speculation that has been so rampant, we would in all probability have witnessed much higher prices. Whenever consumption overtakes production high prices follow. That this condition was in sight the past season can hardly be denied. When one of the great bull firms asserted last December that "the commercial crop of the present season will fail to meet the demands of normal consumption and restore the necessary equilibrium between raw material and manufacture by 1,500,000 to 2,500,000 bales," it was known that this was not the mere dictum of a speculator, but it was a representation of conditions in the present price of cotton. The price of cotton is but in keeping with its history for the past three decades, which has shown fluctuations from 5 to 17½ cents a pound. This, in turn, is but in keeping with the variations in price of the other great products of the soil. It is not uncommon for wheat to fluctuate in one year from 65 cents to \$1.25 per bushel, and corn to show variations of 25 cents and the various products of the hog five cents per pound, while in the past 10 years coffee has fluctuated from 3½ to 22 cents per pound, all of which has been brought about by the law of supply and demand. This being so, it would seem that the contention that the present price of cotton is due to speculation and manipulation is not tenable. No body of men have cried out as fiercely and often as unreasonably against "American cotton gamblers" as have the spinners of Lancashire, and yet a short time ago the president of their association, looking back at the history of the cotton market last season, said in an address to the association: "Last season cotton cornered itself." While the speculator has undoubtedly in times past influenced the market to a point beyond its intrinsic value, and will continue to do so, history has demonstrated that such prices are temporary, and we can console ourselves on this line by remembering that as

the disregard of the physical laws of life means death, so in speculation a disregard for law of supply and demand means ultimate disaster, and each year we see additional names added to the honor roll of disaster of those who have undertaken to corner the great products of the soil. But if the price were due to speculation and low prices were essential, it would seem that the great cotton exchanges of the world were beneficial institutions, since most of the operators are bearish in their movements. The exchanges have a natural and useful function, and appear to come in for censure only when the market is bulled.

#### Who Were the Gamblers?

When the price of cotton began to rise last fall, due partially to manipulation, many of us began to cast vile calumnies at the bull leaders, and charged them with being gamblers, and even blacklegs, but one is impelled to ask the question, "Who were the greatest gamblers, they who bought what they wanted, or you who sold for delivery that which you did not have?" One of the oldest members of the New York Cotton Exchange was heard to say not long since: "Cotton is standing alone, without a friend, it would seem. Against it is the English government, the combined mill interest of the world, the market manipulation of Liverpool and New York, and banks of Wall street and every possible influence that can be brought to bear, and still prices hold high." Another said: "I have been a member of the New York Cotton Exchange for a great many years, and I have never heard a word said about a man who tried to bear cotton, but the man who endeavored to buy cotton has always been a target." Cotton has never been so low that persistent attempts have not been made to depress the price. An advance to six cents in 1897 was fought just as hard as the 16-cent level this year. I have said that the price of cotton would remain comparatively high. Upon what conditions does this belief rest? Primarily upon the South's inability to increase its crop for some years to come, coupled with the apparent certainty that the demand will not be less, if not more, than at present. Certainly the increased price will stimulate increased production, but when the increase shall have been accomplished to any extent the law of supply and demand will again suitably adjust the price. I do not take into consideration the efforts of several European governments to encourage the growing of cotton in their domains, from the fact that if their efforts ever amount to anything they certainly cannot within a few years, or before the South itself shall be in a position to produce more. This effort to grow cotton in these sections is nothing new; they have been growing some cotton, and will continue to do so. That there will be an increased average in the South this year no one doubts, but I would have you remember that there is a vast difference between acreage and production. It is also a well-known fact to those living in the South that there is more acreage planted every year than can be cultivated.

#### Shifting of Labor.

There was a time when the four essentials in the production of cotton, to wit, the 40 acres, the mule, the negro and the guano, were easily obtainable. Today the negro, one of the most important of these, can hardly be had upon the farms. This population has largely left the farms, either for the railroads, the mines, the phosphate works or for the shiftless life of the towns, and not only have the negroes left the farms in large numbers, but this is also true of the white tenant class. The rapid growth of manufacturing industries in the Southern States is the principal cause of the scarcity of farm labor.

The mills have given employment to thousands who, when cotton was selling below living prices, were attracted by the inducement of better pay for their services and shorter hours, and they have adjusted themselves to living town and village lives, and cannot easily be induced to return to the farms. Farmers cannot secure labor for love or money, and this fact in itself is sufficient to keep down the production until the South can bring to its cotton fields by immigration Italian or other farm labor to take the place of the negro. Do you doubt the scarcity of labor upon the crop? Remember what it has done for the grain fields of the West. Cotton has attained a new price level, as stated, and neither the efforts of spinners, the prevalence of war nor the cotton-growing schemes of other countries can drag it down. Another of the conditions that go to show the South's inability to increase its production at will is the deterioration of seed, and, consequently, the reduced yield per acre. Oil mills there are numerous, and they will only buy the best seed, and the high prices which they give induces the farmers to part with their best and to plant the inferior. For the past six years we see a steady decline in the average yield per acre—a decline that within itself seems alarming. Suppose, then, that higher prices are permanent, it appears that with concert of action or with judicious individual action in the sale of goods high prices will be more attractive than low prices, for with cotton at a high price the man who produces it makes a profit and puts more money in every channel of labor and business, and the home consumption is increased. On this point I desire to quote at some length the words of a well-known Southern planter and cotton merchant: "The great financiers and students of political economy in this country do not seem to have given the cotton industry the careful attention and study it merits. Few realize that an absolute crop failure would mean disaster not to the South alone, but to every section from the Rocky mountains to the Atlantic in this country, and to the world at large. The mills of the East and South, employing in the aggregate about 500,000 people outside of the many thousands indirectly connected with the industry, are entirely dependent upon the cotton of the South, with the exception of a few thousand bales of Egyptian cotton used for special purposes. The mills of Europe, employing directly and indirectly four or five times as many people as the mills of this country, are almost wholly dependent upon the South's staple, since 80 per cent. of the cotton crop of the world is produced in this section. The farmers of the Delta sell everything they raise and buy from other sections of this country everything they use, thus creating for the West a vast market for its products. The vastness of the interest at home and abroad, illustrated by the world-wide discussion now going on as to cotton and the efforts which are everywhere being made to develop cotton-growing in other countries, should impress upon everyone the supreme importance of the cotton crop and cause them to realize that this is in no sense a sectional crop, but rather that it goes even beyond national lines and become an international crop more far-reaching in its effect than any other single crop of any country in the world." And, gentlemen, why should we want to depress the price of the great national staple of America when it can be made to bring such enormous wealth directly to so large a section of our country, and indirectly to all? With the near close of this fiscal cotton year, why can we not congratulate the great cotton producers of America for having received a price for their staple commensurate with their toil and labor, which should

be a cause of national congratulation on account of having given stability to our financial condition, and wish for them a continuation of their prosperity and a world-wide recognition of the value of their great staple.

There is no doubt about what high-priced cotton has done for that section when a Georgia poet bursts forth like this:

Fine, old time in Georgia—  
Ever'thing goes right;  
Fiddle des a-gwine  
Tremendous thoo de night.  
Old folks so ambitions  
Ter be a feelin' fine—  
Balance to your partners,  
En keep de music gwine.

With cotton and its products we can lay tribute upon the world and collect every farthing of the tax! Why should we join hands with the foreigners to assassinate the old king. Hear, gentlemen, the words of the beloved and immortal Southerner, Grady, whose every word was a plea for a union of all American hearts:

"What a royal plant it is! The sun that shines on it is tempered by the prayers of all people. The shower that falls whispering on its leaves is heard around the world. The frost that chills it and the dew that descends from the stars is noted, and the trespass of a little worm on its green leaf is more to England than the advance of the Russian army on her Asian posts. It is gold from the instant it puts forth its tiny shoot. Its fiber is currant in every bank, and when losing its fleeces to the sun it floats a sunny banner that glorifies the field of the humble farmer; that man is marshaled under a flag that will compel the allegiance of the world and wring a subsidy from every nation on earth. It is the heritage that God gave to this people forever as their own when he arched our skies, established our mountains, girt us about with the ocean, loosed the breezes, tempered the sunshine and measured the rain. Ours and our children's forever. As princely a talent as ever came from His hand to mortal stewardship." If, then, gentlemen, we must recognize the inevitable and adjust ourselves to a higher price, what shall be the remedy? Out to the sea!

#### A Note of Warning.

I am just now forcibly reminded of a note of warning given by Mr. Theodore C. Search in an address to a convention of cotton spinners in May, 1900, which, as we all remember, was at a time when our business was most satisfactory and flourishing and prices could be obtained from our home markets that were more profitable than elsewhere. He said: "It is strange how quickly the lessons of adversity are forgotten in the flush of prosperity; how deaf are many manufacturers to admonitions to look out for a repetition in the future of the dismal experiences of the past. If there be any one lesson which I would impress upon you more strongly than another at this time, it is the necessity for making provision now for this reaction which must surely follow this era of great prosperity. Now, above all times, is the opportunity to develop foreign markets, or at least to lay the foundations for a great trade in all our manufactured products in foreign countries. Never can we afford so well as now to spend a little of our time, money and energy in this great work."

The discrepancy between supply and demand in the home market, which he so forcibly predicted, is now more alarming than ever, and in consequence we are in a most deplorable and intolerable condition, with mills curtailing on every side and the value of their stocks declining with each succeeding quotation.

With Dewey's victory at Manila bay the map of the world was then changed and a gateway of American commerce was

opened out for us. By reason of the reciprocity treaty with Cuba this territory is open to us. The time is opportune for our manufacturers to make a decided stand for foreign trade. New mills have been erected to supply the demand created in the past; that demand has apparently been met, and in order to keep the mills going we must seek other than home trade. The attention of the world has been attracted to American-made goods since the Spanish-American war. The law of supply and demand governs the price of our products, and if our mills multiply faster than our home consumption increases there can happen but one of two things—an unprofitable business, such as we are now having, or an increase in foreign trade in our fabrics. There is no doubt but that we have had an abnormal increase in spindlage within recent years—only 2,000,000 or 3,000,000 spindles in the South a few years ago, and about 8,000,000 now—and yet while the quantity may not be considered so great relatively to the demands of the nation, it is like a ship that is well loaded with freight so that water almost pours in over her decks—any added weight will increase the trouble. And it is so with the market on cotton goods. The contention is made that we will never have too many mills in the United States as long as we raise and export so much raw cotton for England and other countries, and the argument is based on the fact that foreign trade is the solution for any congestion, but in doing so it would appear that the cart is placed in front of the horse. We must first build up and establish this trade, and follow this with the building of the mills in proportion to the trade we secure.

We can rest assured that the trade will not come over our way without constant "drumming" and solicitation. We should establish a medium for giving our goods more publicity in foreign countries and for exploiting same in a manner in keeping with America, noted for her gigantic undertakings and modern business methods. The foreigners are noted for being slow in adopting any changes from their accustomed methods, and yield slowly to the seductive persuasions of an American "intruder," but as in all things, constant and persistent efforts will eventually win.

Help our American vessels as other nations do. The great railroads of our country receive help in the carrying of the mails; that is a compensation, and that is what the shipping would require. It is just and reasonable. There is evidently a prejudice, and especially in some of the papers of our Southland, against this, but it should make no difference whether the republicans or the democrats are in power, the wheels of industry must be kept in motion and the interest of our manufacturers to an extent subserved. Democratic politicians oppose good measures introduced by republicans; republicans likewise oppose those introduced by democrats, and for no other reason than the emanation of the measures. Let us frown upon such "statesmen" and self-asserted "guardians" of the people's rights! Let us advocate the measures that are proper, no matter if they be introduced by democrat, republican, prohibitionist or populist! Keep politics in the background, and let business and the public have first consideration each and every time. Politics are all right when not interfering with our success, but then we should say, "thus far shalt thou go, and no further."

The building of cotton mills, and especially does this apply to the South, has in the past few years become a fashion and a fad. No town, village or hamlet is content without one, and as a rule they are built without any consideration as to cost or purpose, and blindly imitate and pattern after one built in an adjoining dis-

trict, and seemingly with the belief that it will be a paying investment just because it is a cotton mill. The idea prevails that because there will be a consequent increase in the inhabitants of a place that the wise thing for every little town is to build one, making but little investigation, and in many instances overlooking the natural advantages the particular vicinity offers in other lines of manufacturing. In many instances they are "moved to action" by the startling headlines of a county paper of a neighboring town giving the large percentage of profit of their particular local mill, but from the public is withheld the fact that the enormous profits are the result of speculation, and not legitimate manufacturing.

I remember to have met a certain mill treasurer on a train not many months ago, and naturally our conversation drifted to the cotton-mill business, and in the course of the conversation he made the remark that he was making a profit of two cents a pound on a certain number of yarn which he had sold at 24 cents. I differed with him, and asked him to make me an itemized statement of his cost based on a certain price for cotton, which he did and handed to me with a "now then" expression on his face. Upon examining the same I found that the item of waste was overlooked, and at once called his attention to this and said how about your cost for waste, and to my surprise he said "I sell it." It is needless to mention that his percentage of waste more than offset his apparent profit of two cents per pound. I mention you this to show the manner of competition that we have and to emphasize the fact that we should have a thorough knowledge of the cost of our goods.

Our Eastern friends have passed through all of this experience, and know at all times the cost of their goods. However, they must meet the competition of inexperienced mills of the South, and that inexperience is often burning up the capital of the corporation and by and by results in receivership. In many instances our Southern people are "moved to action" by the announcement through the press that the center of the cotton industry is surely passing from Massachusetts, the blue-blooded Commonwealth of the North, to South Carolina, the blue-blooded Commonwealth of the South, and the very fact that such "encouragement" is given they continue to build and create "new captains of industry," and do not realize that they are not so blue-blooded, after all, till the same local papers are called upon by a sheriff to advertise a sale of a mill. This transfer of the industrial center from the cold, overcrowded cities of the North to the open, sunny hillsides of the South that we read and hear so much of must cease for a while, at least till we can either have a better demand at home or abroad.

It is all very nice to board a train at some of our Southern cities, and in traveling north to New York or Boston to note the wonderful progress that we Americans are making in the erection of textile plants and to see the roadside literally lined and each town and city wreathed in the black and white of the smoke and steam of industry, but, after all, may we not stop and ask ourselves the question, "Are we not overleaping ourselves?" In answer to this I will say that already the lights of the mills, suggestive of myriads of fireflies on a fast-moving train by night, have ceased to "light up the way," and from present indications there will be a complete silence in many plants both night and day ere many weeks, and no evidence of life will be seen except the tramp of a watchman in making his hourly rounds.

#### The Commission Houses.

Pardon me for alluding to our commission houses, and what I shall say refers

more particularly to those representing the yarn department of our industry, for I am only conversant with this particular branch, but have no doubt but that all other departments are gradually tending towards the same evils to which I shall refer. Please understand that I have nothing but the kindest feeling for these gentlemen, and I am aware of the fact that many of them are my closest friends, and to say that they have apparently fallen into a system that has already been disastrous to the mills producing yards. The commission man appears to be indispensable, and we will all agree that it would be too big an undertaking, just now at least, to assume all of the responsibilities of commerce as well as manufacture. We need the good and fair-minded commission men, but we and they need rules to make business easier and fairer. We have had for three years an unprofitable business, and this has been brought about largely by the methods in which the product is sold through a large number of dealers, which method is continually on the increase, and, as stated, has been very largely responsible for the unprofitable nature of this particular branch of the industry, and which has a depressing effect upon the entire industry. During the last three years the mills have been tempted by the offers of so-called commission houses, who really are mere speculators, to take orders from a variety of these houses at prices which seem acceptable at the time, being tempted by prompt settlements and with feeling that they were making sales which were going directly to consumers, and that by doing business with a number of these dealers that they were reaching a larger market and extending their fields of trade, whereas the real result has been that it has encouraged greatly speculative business on the part of these dealers, who place orders with the mills when they think that the market is likely to advance, anticipating the needs of the buyers and intending to reap the benefit of the demand which comes later on for themselves, so that when values have advanced the mills do not get the price which they would have obtained had the sales not been made. Again, when there are signs of weakness in the market these dealers pursue the same policy with the trade, taking orders for a long distance ahead at lower than the market price, in the expectation of being able to place these orders later with the mills after values have declined. By anticipating a decline and selling goods short to the trade they fix the market values at which the mills are forced to sell later, and thus there is a double injury caused to the spinners. If the dealers are willing to anticipate a decline and take orders at lower values, that establishes the price which the mills are forced to meet later through their regular agents. The disposition of the mills to do business in this way has greatly encouraged this kind of business by weak people, and the result during the last two or three years has been a very great increase in the number of these dealers, who are constantly making offers to the trade of goods which they do not have, and also trying to place orders with the mills against sales which they have not made. The failure of several of these houses which have done quite an extensive business in this way with but small capital has caused a large loss among many of the mills, and has given a very clear example of the injury to the mills of this method of doing business. Competition also of all these houses among the different customers results frequently in their paying more to the mills than they take the orders from the customers at, feeling that they will sacrifice a portion of their commissions which the mills allow in order to do business, but the prices at which the orders are taken

are known to their competitors, and the result is these prices become the market prices, and are quoted to the mills, and establish a new basis for future business. It is this class of dealers who resort to cancellations on almost any whimsical subterfuge in order to relieve themselves of purchases made on a booming market when a decline makes itself apparent, and who naturally could not be expected to take the spinners' side, they being the purchasers, against what is really fraudulent abrogations and claims. There was a time, not many years ago, when the business was conducted on a purely commission basis, and when there was a closer community of interest existing between mills and agents and a fixed standard of business morality existed. In referring to this matter I am not unmindful of the fact that a great many of our agents do confine themselves to a strictly commission business, and do conduct their business with a rigid adherence to business principles, but in their endeavor to do so have lost prestige on account of the fierce competition of the speculative element. We are forced to admit that the mills are to blame for this state of affairs, and they have it in their power to remedy the same by following the policy of confining the sale of their product to a few reliable houses who are responsible and who really act as agents, looking after and protecting the interest of the mills they represent, and who place the product through actual consumers and in regular channels. Speculation would be eliminated from the market, and prices would then be governed by supply and demand wholly, and there would not be the cutting and pressure that now exists. There has not been an overproduction of yarns, yet in spite of this the price for several years has been very remunerative, and this is wholly attributable to the methods of selling and shopping, by which an entirely unnecessary competition among mills has been developed.

One other subject, gentlemen, must engage my attention very briefly, and I shall have concluded. Equality of opportunity is the sole distinguishing feature of American civilization; yet we see great bodies of our citizens organized in a death struggle to abridge this principal of liberty. And in discussing the question of labor unions certain things must be conceded. The right of labor to organize is equal to the right of capital to combine. We must admit their right to accept or reject prices offered them. They have the right to work or not work, and to peaceably present their opinions to others. They have the right to appeal against real and fancied wrongs. They have acquired wonderful power on account of organization, and large numbers, and appear to be putting this power to dangerous uses, and are becoming dangerous not only to their original purpose, but to our very government itself, and closely allied in the principle of the subversion of liberty that we find in the unheard-of and un-American demands of their leaders that labor shall not be allowed to market itself, and employer to hire whom he will, except at the dictation of some organization, and the new proposition that the national government shall regulate the hours of labor. It would seem that our friends of one section had been themselves sufficiently entangled in the web of labor troubles as not to desire that their friends of another section be caught in the same net. If there be an idea that it were good to have the conditions of one section imposed upon another, let them reflect upon the manifest injustice of the same. Concede that the one section has longer hours of labor, and you have stated her whole advantage. The other has the advantage of decades of training, skill and knowledge. The one

is new, untrained and capable of producing much less per hour. So longer hours give no superiority, but merely help to make conditions equal. A uniform law would not equalize conditions. So then, gentlemen, in summing up I would say, let us stand for liberty and equality, for prosperity at home and conquests abroad,

and, turning our eyes to the future, undertake greater things for greater America, and remember that in the recent words of one of our congressmen, "there is nothing that American genius and American enterprise undertakes but what is possible to American genius and American enterprise."

#### COMPLICATIONS IN THE COTTON INDUSTRY.

By ARTHUR H. LOWE, Parkhill Manufacturing Co. of Fitchburg, Mass.

I prepared this paper first because I was proud to be invited to do so, and secondly because I was threatened with excommunication or something worse if I declined.

Now, under these circumstances, I will briefly call attention to some of the peculiar conditions that exist in the cotton industry at the present time, and draw a few very general conclusions in regard to them. I doubt if conditions in the cotton industry were ever more complicated than now, and I doubt if there ever was a time when men would differ more widely than now as to the causes and remedies of these conditions. Consequently, I will simply refer to the conditions as they are popularly reported to exist, and without any arguments leave you largely to form your own conclusions of cause and remedy.

Starting with the cottonseed, we are told that on account of the higher prices paid for the earlier and better seed by the oil mills, the later and poorer seed is planted, and that the old-time and important custom of carefully selecting the earliest and best seed for planting is no longer followed.

We are told that the cotton lands also are becoming exhausted; that proper and sufficient fertilizer is not used, and that for these reasons, and on account of the short supply of farm labor, the cultivation of the crop is not as thorough as formerly, with a result that the average quality of the cotton crop of the country is not as good as it was a few years ago, and that the quantity that can be produced is limited to from 11,000,000 to 12,000,000 bales. We are also told that the depredations of the boll-weevil and other insects are very serious and threatening. These are serious conditions that the planters and the agricultural departments of the cotton States and the nation must give most careful attention to if our country is to hold its place and prestige as the cotton-producing country of the world, and that in spite of the strenuous and almost desperate efforts of the countries of Europe to develop cotton-growing in other countries.

Now, if these things are true, the seriousness of the situation to these foreign countries, taking into account the rapidly-increasing demand of the American mills, justifies their anxiety and efforts. The King of England has in a recent speech from the throne called attention to these conditions, and boards of trade and business associations in these foreign countries have appealed to their governments for some kind of relief. Organizations are being found to encourage and develop cotton-growing wherever it promises any success. Almost pathetic appeals are being made to the people of England, France and Germany to support these efforts with their money and patriotism. I suggest that these people send their money and emigrants to this country and expend their efforts here, where there is still abundance of uncultivated land and no experiment.

We are told that if more cotton were grown it could not be picked because picking is still hand work and labor is scarce. What a field is here for the inventor. Who shall develop with mechanical, pneumatic or electric power a cotton-picker that shall equal in results the wonderful harvesting machines that are used in the great grain fields of the West?

When the seed cotton is picked it is

taken to one of the newest ginneries—if you please—there to be ginned, baled and handled with but little, if any, improvement over the methods that were in vogue 50 years ago. Here is opportunity for tremendous improvement and some criticism. No article of commerce of equal value is so wastefully and shamefully treated as this beautiful, useful and delicate fiber. It is subjected to abuses in handling and abuses in transporting and customs in buying and selling that are ridiculous. As a single illustration, there is one system of weights and tares to the American manufacturer and another to the foreign buyer. Here is an article worth from 10 to 15 cents per pound stored out of doors, piled on the ground, often in the mud, left upon the railroad platforms without cover, subjected to waste and damage by storm and wet. Why, gentlemen, cotton, which is king, receives less care than the rage of the ragpickers or the paper stock of the papermaker, worth but one or two cents per pound, or of many other commodities of less value that we could mention.

When the cotton is actually in the market ready for the manufacturers it becomes the basis for speculation and manipulation that keeps the whole cotton industry in a state of unrest and uncertainty, like a display of fireworks that winds up in a grand explosion. We have recently had one of these displays, and what is the result? The cotton-growers have received a higher price for their cotton. The cotton factors have made money. Some men have gotten rich. But what of the manufacturing end of the industry? At no time during the last 12 months have the conditions of the goods market justified the buying of cotton at the price on the day when the goods were sold.

To aggravate the situation, the impression has gone all over the world that the price of cotton is too high and artificial.

Buyers of goods, believing that the price of cotton will be lower, are cautious. Consumption is curtailed, and when the whole world, more than one billion people, decide to curtail in the consumption of a manufactured article, that industry suffers terribly. The curtailment of only 10 per cent. in the consumption of American cotton would mean 1,000,000 bales out of a 10,000,000-bale crop. What is the result? The cotton-machinery builders are slack, and thousands of their employes are idle. The cotton mills are obliged to go on short time, and hundreds of thousands of the millworkers are on short pay. The effects of this curtailment could be traced almost indefinitely, but this will suffice. Of course, I would not attribute all of the present depressed condition in the cotton industry to speculation. The Russian-Japan war is responsible for an unnatural condition. The exports of cotton goods to China are practically cut off for the present. We are also facing a presidential election, and while there is no doubt of the result, there is the usual disturbed condition. Other industries are dull. The attitude of labor organizations—the principle that they will work as short time as possible and do as little work as possible and get as much pay as possible—is one of the serious conditions confronting all manufacturers today, and accounts for the depressed condition and idleness in

many industries. This does not so much apply to the South, where conditions are as yet more natural, as it does to the East, where the walking delegate is more in evidence. Such conditions and such times as these are what test the abilities and capacities of the captains of this, one of the most important industries of the world, namely, the clothing of the people. Now what shall be done? Let the cotton-planters exert every force and facility at their command to meet the conditions that confront them. The higher prices that are almost sure to prevail for several years will enable them to use better and earlier strains of seed, cultivate more thoroughly and use more fertilizers. I believe the present conditions will eventually result in good to the cotton-planters. They will spur to greater efforts. New England is no longer alarmed about the potato bug, and the crop is larger and better than ever. The Hessian fly is no longer the nightmare of the wheat-growers of the West, and so will the cotton-planters outgrow, outcultivate and outwit the boll-weevil. And here let me make a simple suggestion. By law and by public sentiment spare the song birds and the ground birds to help rid the country of this boll-weevil, the bugs, worms and other pests. Don't kill the birds.

Mr. Edward Atkinson advocates killing the yellow dogs in the South to save the sheep. I would save the birds to kill the bugs.

Next, I believe a great improvement will soon be made in the ginning, baling and marketing of cotton. A new rotary roller cotton gin is being developed that I believe will revolutionize the ginning. Personally, I believe in the ultimate success of the round bale. Its more convenient shape for handling and transportation, its freedom from fire risk and other advantages more than offset all objections, and before many years will be universally adopted. This will mean a saving of millions of dollars in waste and fire loss every year.

Some people believe that speculation in the raw material of the country should be prevented by law. This is not an easy

proposition to execute. If we could separate the legitimate transactions (actual purchase and sale) from the gambling transactions the latter could probably be controlled either by license, tax or prohibition.

I believe most manufacturers North and South congratulate and rejoice with the cotton-planters that they have received higher prices for their cotton. This means a great help to a great section of our country. If the conditions to which I have referred are to prevail, the price of cotton will continue to be higher than formerly, and cotton-growing will be very profitable, and in time cotton manufacturing will adjust itself to the higher basis. The manufacturer is content to pay a higher price for his raw material when the demand for his product assures him of a price for his product that will give him a reasonable return for his investment, risks and efforts. The adjustment to higher prices and new conditions in any industry are sure to create temporary disturbances.

I believe the best way to meet the existing conditions in the goods market is to curtail product, thereby meeting the curtailment of consumption. Adjust product to demand. Demand will fix the price of product, and price of product will eventually fix the price of cotton. A large supply of cotton and low prices would stimulate consumption, but at present we do not have the large supply, consequently we should adjust product to the demand on the basis of higher prices. The difference in price of cotton and goods a few weeks ago represented a slow process of ruin to the manufacturers. More recently the price of cotton has been falling, and while the price of goods has not been advancing to bring the two together, the supply, through curtailment, is being diminished, and the demand, though small, is consuming the surplus supply.

Now in the end (and I believe we are near the turning-point) this means proper adjustment and happier conditions for all who are interested in the permanent good of this great cotton industry.

#### FORESTS AND WATER-POWERS.

By F. H. NEWELL, Chief Engineer Reclamation Service, United States Geological Survey.

It is a pleasure and honor to address business men such as are represented by the Cotton Manufacturers' Association. The investigations and operations being carried on by the general government are benefited at all times through contact with men of affairs and by criticisms and suggestions made by business men. They are kept from degenerating into mere routine in proportion as the active citizens take an interest in them. Unfortunately, government work does not at all times have applied that infallible business, namely, that the results must be worth the cost. This standard, so vital to success in the business world, should be more frequently applied to government work. This can be brought about in part by the keeping in close touch with such men as compose this association.

The subject which is to be now discussed briefly relates to water-powers and the influence of the forest growth upon them, and upon the best development of the industrial world through conservatism and development of the waters. The ability to obtain cheap and reliable power lies at the foundation of much of the prosperity of the country. Whatever tends to enlarge and perpetuate cheap power increases the earning capacity of the region. Water-power is one of the forces of nature first utilized by man, water-wheels being among the earliest of the appliances employed in manufacturing. During several decades, however, water-powers have

fallen into disuse, or even disrepute, being supplanted largely by the steam engine because of its greater convenience and ease of installation and control. Recently, however, the improvements in mechanical devices, and especially in electric transmission, have wrought a change, and interest is again centering in the opportunities for obtaining power from the streams.

To make clear the general statements which are to follow, and to explain the relation of some of the work of the government to the subject under discussion, it is necessary to describe briefly some matters which may be well known to a few, but which are possibly not understood by the majority. The geological survey, which has in charge the particular work to be described, is an organization created in 1879 for the purpose of classifying the public lands and examining the geological, structural, mineral resources and products of the national domain. The members of the survey are prohibited by law from having any personal or private interest in the lands or mineral wealth of the region under survey, and execute no surveys or examinations for private parties or corporations. The national domain has been defined as including the whole of the United States, so that the operations of the geological survey reach into every portion of our country.

The functions of the geological survey pertain mainly to mapping and describing

mineral resources and products. Among these the most important mineral is water. We could get along after a fashion without any one of the other minerals, but water is absolutely essential to life itself as well as to most industries. Upon the quantity and quality of the waters, their fluctuations and the ease of obtaining or utilizing them depend the existence of all kinds of animal and vegetable life and of all the multifarious industries of mankind.

The study of the water resources of the country was begun systematically, with particular reference to the arid West, where, through scarcity of supply, water is most keenly appreciated to be the foundation of all values. There land is in excess and is practically worthless, but water is highly prized, and upon its possession depends the ability to live and to cultivate the soil.

In the East, while water is not always recognized as being so vitally important, yet when consideration is given of the subject it is seen that a knowledge of its quantity, quality and changes in amount from time to time is essential to many kinds of business. The farmer must have water for his cattle and domestic supply, the village must have its wells, the towns and cities their water-works and sewage plants, the manufacturer and railroad must obtain suitable water for steam purposes, and many processes of manufacturing must be regulated with reference solely to the water obtainable. Accessible water-powers govern the location of manufacturing centers, and the country develops in proportion to the knowledge had and applied concerning water and its use.

It has been the business of one of the branches of the geological survey, known as the hydrographic branch, to study and bring together all the facts concerning the behavior of water from the time it reaches the earth as rain or snow until it joins the oceans or the great navigable rivers. Some of the water which flows upon the earth's surface returns immediately to the atmosphere as an invisible vapor. This is lost to most industries. But the greater part runs off in the form of brooks, creeks and rivers. This portion is known as the "run-off." This is the subject of most of the study of the hydrographic branch of the geological survey.

The run-off in the humid East may be from 50 to 60 per cent. of the rainfall. In the dry West, where the rainfall is less in quantity, the run-off is far less in proportion, and may be from nothing to 5 or 10 per cent. of the scanty precipitation. The facts of the relation between rainfall and run-off are among the important items of investigations.

Some of the water from rain or melting snow soaks into the ground, saturates the pervious rocks, and can be recovered by holes dug or drilled into the ground. Well water, while relatively small in quantity, is always an important matter, and the investigation of the occurrence of water underground, its movement and the value of shallow or deep wells is yielding results of great value to various communities.

For convenience of administration the hydrographic branch is divided into several divisions, one known as the surface of the ground, the other the behavior of water which soaks beneath the surface, or what is known as the geology of water or hydro-geology, which is contracted into hydrology. Besides these there is a third division, known as the hydro-economic, which is studying the quality of water in its effect upon various industries. Hard waters, as everyone knows, are bad for steam purposes, destroying boilers and resulting in great expenditures on the part of railroads and manufacturing corporations. Polluted waters are also a continual source of danger and expense to

various communities. In short, between the natural and artificial impurities in the water obtained from the surface and from underground there are innumerable complications arising, many of which are detrimental to the best employment of water in the arts and in domestic use.

In addition to the investigations the government has begun a still greater work. It is putting to practical benefit the results of its studies by the reclamation of great tracts of arid public land, making these deserts available for settlement and bringing about the creation of homes upon small farms intensely cultivated by the use of stored water. This development of the West is of interest to all citizens of the United States, and particularly to the cotton manufacturers, since the country thus reclaimed furnishes the best home market for manufactured goods. The irrigator is, as a rule, the most prosperous of farmers. He has the most money to spend and purchases most freely. Every community created in the desert areas of the West means an opportunity for increased sale of cotton goods.

It is not, however, of this work of constructing great reservoirs and distributing systems of which I wish to speak at this time, but rather of the results of the studies of the water supply and of the water-powers in the great manufacturing districts extending from Maine to Georgia. Here especial attention has been devoted to the measurement and knowledge of the streams useful in manufacturing. These streams issue from the mountain areas and flow for the most part directly outward to the ocean, having a relatively short course and rapid flow, producing conditions which are highly favorable to the development of water-power.

The utilization of these streams has been most general in New England, and centers of industry have grown around the numerous waterfalls. This area is characterized by many lakes and marshes, so that the flow of these rivers is relatively steady and the summer discharge well sustained. Coming south, however, and passing out of the country of lakes, there is soon reached in Pennsylvania and the Virginias the typical Appalachian area, where there are no lakes of any considerable size, and where the rivers have their sources in the great forests.

The absence of regulating lakes on these southern rivers, and the lack of definite information concerning their behavior, operated for many years to create a prejudice in the minds of investors, and even of engineers, and it was held as an article of faith by many otherwise well-informed men that the southern rivers were of little importance in manufacturing.

The investigations of the geological survey were, however, gradually extended to these southern rivers, and to the surprise of all it has been found that the summer flow is far better than was anticipated. The explanation is in a large part due to the character of the mountain catchment basin, and lies in the fact of the dense covering of trees and shrubs, which aid in conserving the rainfall and which assist to a greater or less extent in preventing the violent fluctuations of the streams such as occur in run-off from denuded areas. The exact extent of this influence is not known, but it is generally appreciated that the forest areas on the mountains are important factors in the industrial employment of the streams in regulating their flow, causing a prolonged summer discharge, and preventing to a certain degree the destructive action of spring floods. There is no longer a question in the minds of the business men of the country but that one of the important factors in the full and continued development of the country lies in the effective

preservation and proper management of its forested areas. The preservation of these forests for use and for their beneficial influence upon the streams adds directly to the resources of the country and increases the opportunities for business of all kinds.

The systematic measurement and examination of the rivers of the Appalachian region was begun in 1895. The funds available for the work were very small, but by the practice of strict economy and by the employment of local agencies, and the facilities offered by various public bodies and State officials, it was possible to carry on considerable work. As results were obtained and the importance of the investigations brought to the attention of the public, increased appropriations were had and the work extended into practically all of the States of the mountain area. This territory is divided into districts for convenience of administration, and the following table gives the names of the districts and number of points of river measurements in each:

District.	River stations.
New England.....	34
New York.....	42
Northern Atlantic States.....	43
Southern Atlantic and Gulf States.....	54
Eastern Mississippi valley and Great Lake States.....	54
Total.....	227

As a rule, each river is measured at not more than two important points, these furnishing general information concerning its volume and fluctuations. Some of the streams, however, are measured at several points in order to obtain facts concerning the increase of flow from point to point and to check the inferences made concerning other streams.

Each district is supervised by a district hydraulic engineer or hydrographer, who is aided by a corps of trained assistants. The work consists in:

- (a) The regular measurements of the flow of rivers.
- (b) Collecting general hydrographic information as regards the location of water-powers, etc.
- (c) Making river profiles.

In addition to the regularly-maintained stations, as many more temporary measurements have been carried on during a sufficient period of time to give a fair idea of the conditions existing in their respective localities. The intention is to so distribute and expand the work that information will be at hand for all the principal streams and their tributaries in the country. Sufficient data on the available power of streams is collected in order to form a basis for estimates in construction work.

Prior to 1895 the general opinion of capitalists and engineers was, as before stated, that the rivers in the South went dry in summer and flooded everything in winter, and were therefore unfit for power

development. So fixed was this opinion that a distinguished engineer, in reporting for the Atlanta (Ga.) water-works in 1880, recommended the use of steam instead of water-power for pumping the city supply. This was on the ground that the Chattahoochee river, opposite Atlanta, was liable to have a minimum flow sufficient to produce only 15 horse-power per foot fall. This estimate was based upon rainfall data and the area of the watershed.

When, a short time afterwards, the attention of capitalists was called to the great water-power of Bull Sluice, 14 miles above Atlanta, with a fall of 48 feet, the report above noted was referred to, and this deferred the scheme for a time. This river was, however, one of the first measured by the United States geological survey, and as a result of the measurements a power plant is now nearly completed which will develop 12,000 horse-power during the low-water period of an average year.

The estimates for the 38-foot development of the Columbus Power Co. at Columbus, Ga., were based upon United States geological survey data. The 36-foot dam now nearly completed on the Chattahoochee river at Gainesville has a history similar to that of the Bull Sluice dam. Nothing could be done in the way of interesting capitalists until the government records could be obtained.

The 40-foot dam and electric-power plant of the Montgomery Power Co., on the Tallapoosa river, three miles above Tallahassee, Ala., completed in 1902, is a direct result of our work.

The above are only a few of the many instances in which the hydrographic data have been the direct instrument in developing the power resources of the various sections of the country. The facts have been printed in annual reports for wide distribution, and have been diffused through correspondence and replies to specific inquiries. The results indicate that the rivers of the Appalachian region coming from the densely-forested areas have ranking value in the mineral resources of many of the States.

This fact being established, that the rivers are of such immense importance in the development of the country, it follows, as a matter of course, that all possible efforts should be made to preserve and develop favorable conditions for sustained river flow. This, in the absence of favorable sites for reservoirs, can be accomplished, in part at least, by the protection of the forests on the headwaters and the prevention of denudation by fire or by bad methods of lumbering. It is for the direct financial interest of all manufacturers and citizens having to do with water-power and its use to employ every reasonable means to bring about such a conservation of the valuable water resources.

#### ROPE TRANSMISSION OF POWER.

By FREDERICK S. GREENE of the American Manufacturing Co. of New York.

Some four years ago the writer was commissioned to make a thorough study of rope transmission from a practical standpoint. To this end he visited every prominent plant this side of the Rocky mountains where rope-drives were in operation, and discussed with the mechanical men actually in charge of these drives their peculiar features. Engineers who made a specialty of designing rope-drives were interviewed also, and the subject studied from the theoretical point of view as well.

The first city visited was Fall River, Mass., under the impression that here, owing to the large number of mills, would be an unusually good opportunity to study the question from every angle. It was supposed that at least a month could be

spent profitably in this one town. The idea proved to be a fallacy, for in the 50-odd mills there only two rope-drives were found, and they were but insignificant affairs. Much to our surprise, we discovered the same condition to prevail throughout that section of the country. Even today in New England there is less rope-driving, in proportion to the amount of horse-power generated, than in any other part of the United States, notwithstanding that during the last four years some very large and important drives have been installed there. During this New England tour the usual reply to the question, "Have you a rope-drive in your mill?" came in a few emphatic words, "No, and we don't want one."

The South proved a more encouraging

field for the writer's endeavors, however. Here nearly all of the large mills were using rope transmission, and it was gratifying to see how willing, and even anxious, the Southern mill man was to discuss the subject in all its details.

That the Southern mills adopted rope-driving so generally is largely due to the fact that the men in control had the courage to try any innovation which bid fair to prove a useful agent. And as we have mentioned this word "courage," permit a digression from the subject of ropes long enough to say that it is the most striking feature of the wonderful growth of the Southern textile industry. Where else would you find men, many of them past their prime, who would unhesitatingly risk every dollar they had earned during the last 20 or 30 years of hard labor in an enterprise of the details of which they knew practically nothing? Today the South is full of successful cotton manufacturers who, 5 or 10 years ago, had never seen the inside of a cotton mill. Men who had been merchants, planters, lawyers—everything, indeed, except manufacturers—deliberately burned their bridges behind them, sold their business for what it would bring, and embarked in this new enterprise with a small capital in dollars, but an unlimited surplus of pluck.

It has been little short of a revolution and one which at its outset was discouraged in every way by the majority of onlookers, who did not content themselves with casting doubts upon the success of the venture, but even ridiculed the idea with those dishonorable but ancient saws, *"an old fool," etc.*

Happily, the wisdom of this new movement is by this time unquestioned. The skies of the South, from the Potomac to the Gulf, are now clouded by the smoke from her cotton mills, and, what is more to the point, it is successful smoke. If any other people of any country have ever shown an example of commercial courage equal to this, historians have failed to record it. It is a long and nimble leap from the law to the loom, especially for a 40 or 50-year-old jumper.

The reason rope-driving was not more readily adopted in the New England States is that when the system was first introduced many mistakes were made by the designers, as, for instance, the wooden sheave with the U groove. Not only did this form of groove allow the rope to bottom, consequently to slip, with speedy destruction as a result, but the wood itself wore unevenly, producing a differential throughout the drive. Another mistake was the attempt to drive with pulleys or sheaves entirely too small to give satisfactory results. But, strange as it may seem, the greatest detriment to rope-driving in our Eastern States was the proximity of the mariner. It was thought that a man who had followed the seas and handled rope for years would be the proper one to splice a transmission rope, and so the sailor was called upon. He put the rope together with a strong ship's splice, refusing to cut away any of the yarns in order to reduce the size of the spliced part to correspond with the rest, the inevitable result being that when the rope was put in service the enlarged splice quickly wore away and an incredible amount of trouble followed.

It is the writer's firm belief that if rope-driving had had a proper start, and the simple method of making a correct transmission splice had been better known, the amount of belting now in use throughout the country would be less by 60 or 70 per cent. That these figures are not far wrong is proven by the great number of important drives throughout the United States on which during the last four or five years mill men, who formerly believed only in belts, have been installing ropes,

and this notwithstanding the many discoveries and improvements made in electrical transmission.

Certain it is that today rope-driving is not only the most economical method, but also the most advantageous. The writer recently had occasion to estimate on the cost of transmitting 1000 horse-power in a textile mill. The power, after being generated by an engine, was to be taken to three floors—400 each to the third and second and 200 to the first. The total cost for the rope and rope sheaves amounted to \$4942, as against \$6000 for the belt and pulleys and two-ply leather belting, while the cheapest estimate received for electrical apparatus to accomplish the same end amounted to a total of \$25,400, exclusive of wiring.

As for the advantages of a rope-drive, this subject has been so much discussed that we need only mention here one of prime importance to a cotton spinner—the fact that it produces no electrical disturbance in the mill; further, that in a properly-designed drive loss from slipping becomes impossible—another point worthy of consideration. As to flexibility, rope transmission for comparatively short distances compares very favorably even with electricity, for by properly placing idlers power may be transmitted from one shaft to another, no matter how they may be relatively situated.

While it is the usual thing to find ropes on the main drive of a Southern cotton mill, there are many places where this method could be advantageously substituted for the clumsy belting or expensive motors now in use. To appreciate fully how far rope transmission may be successfully employed one should visit some of the modern grain elevators in Duluth, Chicago or other points along the Lakes. There are many of the larger or so-called city elevators which do not have a piece of belting from foundation to roof.

Some of the most thoughtful mill engineers are now using rope transmission in plants where electricity is the main power, the method being to bring the power to central motors, from which the balance of the mill is driven by ropes. A good example of this method may be seen at the Columbus Manufacturing Co., Columbus, Ga.

The rival advantages of the two systems of rope-driving have long been a subject of contention among mechanical engineers. It is usual to find that an advocate of the multiple or English system can see no virtue in the continuous or American; nevertheless, he will occasionally adopt it when the multiple will not answer his requirements. But the champion of the continuous system never allows his fidelity to waver under any circumstances. This adherence to one or the other is largely sectional, the East and South tenaciously holding to the multiple, while west of Ohio it is practically an unknown contrivance.

Starting out from a mill where the continuous system was used only in cases where the multiple would not work at all, the writer began his rope-driving career with a strong leaning towards the multiple method. Time and experience have strengthened him up, and, in fact, bent him a little in the other direction. The continuous is so adaptable to varied conditions, so useful in the solution of difficult problems, and so much less trouble when the question of splicing is considered, that it now holds a firm place in his regard. The one great drawback to the continuous has always been the question of its safety. The liability of damage caused by the breaking of a long length of rope running at high speed is undeniably serious. But the chances of accidents with the continuous are growing less and less each year, for drives of this character

are now being constructed upon better methods. The exceedingly shallow groove, turned to a flat angle of 60 degrees, which was formerly much in vogue, and the practice of asking one tension carriage to control 15, 20, or even 30 laps of rope, are being done away with. Where first-class machinery is used and the groove turned to the proper angle and a sufficient depth to prevent the rope from jumping, and where the tension carriage is not asked to take care of an impossible length of rope or number of laps, accidents with the continuous system are no more liable than they are with multiple ropes or belt.

The question is often asked, "What is a transmission rope?" to which the only correct reply must be, "Any rope that is used to transmit power." In other words, you may take a jute clothesline, splice it about a couple of sheaves, and it becomes a transmission rope. But the question, "What is the proper kind of rope to use for transmitting power?" requires a much more explicit answer.

When rope-driving was first introduced in Belfast, Ireland, and Dundee, Scotland, some 45 years ago, only cotton rope was used, a practice which still holds in many of the cotton mills of England. In this country, however, manila rope is used almost exclusively. When it is remembered that the best cotton transmission rope made breaks at but 4000 times its diameter squared, whereas the breaking strain of a good manila rope is from 7000 to 7500 times the same, it is evident that the latter should supplant the former.

Beside this vital advantage of strength, there are many other points in favor of manila rope—it costs less money, does more work, lasts longer, and can be more easily and smoothly spliced.

Manila fiber is one of the most wonderful, if not the most wonderful, that grows. You gentlemen who work cotton, and lay so much store on an eighth or quarter of an inch extra length of staple, will appre-

ciate the value of a fiber which is anywhere from 6 to 14 feet long. The strength of the fiber itself is another astonishing quality. Official tests at Watertown, Mass., have shown it to be in excess of 50,000 pounds per square inch. It has, therefore, a greater tensile strength than steel. The longest fiber, however, contrary to general belief, is not always the best from which to make a transmission rope, for some of the extremely long variety is coarse and brittle. The best fiber from which to make a good rope for transmission purposes is what is known as Zebu hemp, light in color, silky to the touch and exceedingly flexible. At the present time the cost of manila hemp varies from 6½ to 13 cents per pound.

The usual purchaser of transmission rope asks for a "long-fiber, four-strand rope with core," and having done this considers he has named all necessary specifications. He may be quoted on such a rope with perfect honesty anywhere from 11 cents to 16 cents a pound. To procure long-fiber manila hemp and twist it into four strands about a core does not make a proper transmission rope. As the rope will probably be required to run at a speed of from 3000 to 5000 feet per minute, and be subjected to rapid and constant bending throughout its entire length, the fiber should not only be long, but the rope should be soft and pliable. Further than that, as the fiber, yarns and strands must all slip one upon another during the bending, the rope should be so lubricated as to reduce to a minimum the frictional wear from this slipping. Again, the great strength of the fiber is shown only when subjected to a longitudinal strain. Transversely, owing to the cellular formation, the fiber is relatively weak; therefore in manufacturing transmission rope the greatest care is necessary to secure such proportion of twist in both yarn and strand as to render the rope least vulnerable to crosswise strain.

#### WELCOME FROM SECRETARY CORTELYOU.

I desire to convey to you the cordial congratulations and good wishes of the President of the United States. He knows many of you personally, and it has been a source of much satisfaction to him that he could arrange to receive at the White House tomorrow the members of your association and the ladies accompanying them.

I have read with a great deal of interest the forecast of the program for this convention. Along with the good-fellowship that is bound to be developed in such a gathering will come much practical benefit to the industry you represent. The rules governing your convention are brief and to the point: there are many organizations that might profit by the brevity and directness of your order of exercises. There is an air of business about them, and I shall try to catch the spirit of the occasion by confining my remarks to a few general observations on certain aspects of the cotton industry, and particularly regarding the possibilities which await the cotton manufacturers of the United States.

Of course, you have problems peculiar to your industry. That you will solve them cannot be doubted. In order to maintain and increase your hold on the domestic and international markets it will be necessary to introduce new economies in production and manufacture, to study trade opportunities throughout the world, to seize upon every advantage offered by superior facilities—in short, to bring to bear upon the problem of a more extended field for the products of your industry the resources of energy and initiative which have brought the United States to the forefront as a manufacturing and an exporting nation.

Whatever affects the producer of cotton is naturally of concern to the manufacturer. Here again we have a number of internal problems which the producer is called upon to solve. He must apply himself to the question of increasing productivity by extending and adjusting his acreage, by improving his methods of cultivation, by eliminating wastefulness in the various stages of cultivation, harvesting and marketing, and by placing the whole process of cotton production upon the systematic basis demanded by modern business.

This country produces three-fourths of the cotton of the world. It has a much larger available coal supply than any other country. It has shown itself capable of producing the most ingenious and most successful machinery. Its transportation facilities and its opportunities for supplying its products in the manufactured form are unsurpassed. Cotton manufactures are required by a larger number of people than perhaps any other single article of manufacture. Only one other great class of manufactures, iron and steel, compares favorably in value with them. They form an important part of the requirements of the world's population. The demand for them is well-nigh universal.

Up to this time the cotton manufacturers of the United States have been occupied almost exclusively in supplying the demands of the home market. Of the \$339,000,000 worth of cotton goods manufactured in the United States in 1900, over \$300,000,000 worth were sold in the home market, and only \$25,000,000 worth were sent to other countries. With the progress which American manufacturers are now making, however, in their power

to transform raw cotton into the manufactured article, and to do this in competition with countries having lower-priced labor, I feel constrained to congratulate you upon the opportunities which await you in extending your industry to other lands while maintaining your control over the home market.

The value of cotton goods imported into the various countries of the world amounts to more than \$600,000,000 annually, or practically double the value of the cotton manufactures of the United States in 1900. So it may be said that the field which is before you in other countries is almost unlimited. These facts, it seems to me, are worthy of serious consideration by the cotton manufacturers of the United States, and by all who desire to see American manufacturers supplying the markets of the world. Our cotton mills manufactured less than 1,000,000 bales of cotton in 1870, only 2,000,000 bales in 1880, about 2,500,000 bales in 1890, 3,500,000 bales in 1900, and over 4,000,000 bales in 1902. In 1903 the amount was slightly reduced by reason of the unusually high price of the raw material.

In 1870 the quantity consumed by our mills was 28 per cent. of our domestic production; in 1880, 31 per cent.; in 1890, 32 per cent.; in 1900, 39 per cent., and in 1903, 37 per cent. of the total production. While special conditions during recent years have caused other countries to develop cotton production, up to this time the United States continues to supply quite as large a share of the world's raw cotton as in former years, and there seems no reason to doubt that with due care and attention it may do so indefinitely. Exports of manufactured cotton from the United States have, it is true, materially decreased during the present fiscal year, but this we may fairly consider only a temporary check due in some degree to the abnormally high price of the raw material and the unusual and temporary conditions existing in the great section where our cotton goods now find their best market—the Orient.

Asia is the world's largest importer of cotton manufactures, and in Asia the United States is rapidly gaining a market for all classes of its products, especially manufactures. With a return to normal conditions in that part of the world, and when conditions at home will justify cotton manufacturers in pushing their products out into the markets of the world, I trust that we shall see this greatest cotton-producing country turning more and more of its cotton into the manufactured form before sending it abroad, and supplying the finished goods more and more to foreign markets.

With our country so favorably situated in all the essentials of cotton production and manufacture, with the most perfect machinery and most industrious, intelligent and best-paid workingmen, I believe that we may confidently expect that the cotton manufacturers of the United States will prosecute still more vigorously the work of transforming the raw material into its finished state, and thus give to commerce and labor their proper share in the opportunities of an enlarged industry.

The Cape Fear Machine Works, of which Mr. C. W. Worth is president and Mr. R. S. Collins is secretary and treasurer, has begun operations at Wilmington, N. C.

The value of business at Wilmington, N. C., during 1903 was \$40,495,000, an increase over 1902 of more than \$7,000,000.

The Southern Vehicle Association is in session this week at Atlanta.

The Standard Broom Co. has established a plant at Anniston, Ala.

## RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### COLUMBIA & LEBANON.

**Survey Shows Easy Grades and Good Alignment for the Road.**

Mr. W. K. Azbill writes from Lebanon, Ky., to the Manufacturers' Record concerning his recently-incorporated electric railroad company. He says:

"The name of the corporation is the Columbia & Lebanon Interurban Railway Co. The capitalization authorized is \$1,000,000, of which \$250,000 is preferred and the remainder common stock. The headquarters of the company is at Lebanon, Ky. The officers are: W. K. Azbill, president; R. N. Wathen, vice-president; J. M. Knott, treasurer, and T. M. Estes, secretary. The points to be connected are Lebanon, Bradfordsville, Mannsville, Ackton, Elkhorn, Ketleyville, Cane Valley and Columbia, the first and last places named being the terminals.

"The proposed line extends from the Louisville & Nashville Railroad at Lebanon into a vast, fertile and populous region in Kentucky lying between the Nashville branch of the Louisville & Nashville and the Southern Railway. The region abounds with all the resources found elsewhere in Kentucky.

"Mr. H. Von Hippel, chief engineer of the Tennis Company of Cincinnati, Ohio, made the survey and estimates. The grades are easy, some 30 miles of the way being along Green river and the Robinson and Arbuckle creek valleys. The alignment is excellent, there being several tangents two miles in length. The distance between terminals is 42 miles. The total mileage of the road is 48 miles. The cost of construction will be very low for a road through a hill country.

"We hope soon to be in the market for everything necessary to build, equip and operate an interurban railway, but to parties who would figure with us for supplies we would say all letters will be filed for reference, and when fully ready we will notify correspondents."

### NEW ORLEANS TERMINAL.

**Extensive Plans for 30 Warehouses, Docks and Piers on the River.**

President L. S. Berg of the New Orleans Terminal Co. is quoted as saying that in the development of the Chalmette terminals the company will, instead of building wharves parallel to the river, construct piers backward from the river. Slips and piers will take the place of wharves. The slip for steamships, according to the plans, will be from 1400 to 1500 feet long, 250 or 300 feet wide and 40 feet deep. Alongside of the slip will be erected grain elevators, warehouses, etc.

In the city the freight terminals are to include about 30 warehouses and a huge coal-storage plant adjoining the tracks and extending from Basin street down St. Louis street. Six tracks are to run between two rows of warehouses, with asphalt driveways on each side of the tracks, these driveways being 35 feet wide and more than half a mile long.

The passenger terminal, to which point it is expected to have track completed by July 1, is to be a steel building three stories high, with offices for both the St. Louis & San Francisco Railroad and the Southern Railway, as well as for the Terminal Company. This structure will be at the corner of Canal and Basin streets.

### Northern Central's New Stock.

The directors of the Northern Central Railway Co. have adopted a resolution giving the privilege to stockholders to subscribe between June 20 and June 30, 1904,

inclusive, for stock to the amount of 50 per cent. of their shares as registered at 3 P. M. May 23. The new stock is to carry all dividends declared after July 2. This financial arrangement is for the purpose of providing funds necessary to pay off \$2,000,000 of bonds which will mature on July 1; also to purchase the outstanding bonds of the Shamokin Valley & Pottsville Railroad, amounting to \$1,562,000, and also to pay off loans contracted for construction and equipment, including the four-tracking of the line between York Haven and Bridgeport, the Fairview yard and other double-track work, etc., these loans amounting to \$3,538,000, making a total of \$7,100,000. Payment for the new stock is to be made between June 20 and 30, inclusive, and receipts will be issued which will be exchangeable after July 8 for the stock certificates. Subscriptions and payments can be made either to the treasurer, Mr. A. W. Hendrix, Calvert and Center streets, Baltimore, or at company's office, 85 Cedar street, New York city.

### Railroad Reports.

The Gulf & Ship Island Railroad Co. reports for nine months ended March 31, 1904, as compared with the corresponding period of 1902 and 1903, gross earnings \$1,388,429, increase \$125,064; net earnings \$482,818, increase \$30,728; surplus after paying fixed charges, \$311,162. During March, 1904, the gross earnings were \$150,560 and the net earnings \$38,894; surplus after paying fixed charges, \$18,844.

The Louisiana & Arkansas Railway Co. reports through Fish & Robinson of New York the following comparative statement for March: Mileage, 147.77; increase as compared with the same month last year, 22.47; gross earnings \$71,782, increase \$27,164; operating expenses and taxes \$43,960, increase \$7981; net earnings \$27,813, increase \$19,183; surplus after paying fixed charges, \$18,922. For nine months, comparison being made with the corresponding period of the last fiscal year, gross earnings \$508,481, increase \$132,415; operating expenses and taxes \$371,158, increase \$104,036; net earnings \$137,323, increase \$28,370; surplus after paying fixed charges, \$64,018.

### Opelousas, Gulf & Northeastern.

The organization of the Opelousas, Gulf & Northeastern Railway Co. is reported from Opelousas, La. The projected line is from Opelousas northeast, crossing the Texas & Pacific Railway to connect with some other line or lines of railway running south parallel with the Mississippi river to navigable water. It is also proposed to build an extension from Opelousas southwest to deep water at or near the Gulf, intersecting the Louisiana Western Railway at either Rayne, Crowley or Jennings. This would involve a total of 100 to 125 miles of construction.

A charter was adopted and officers were elected as follows: President, Thomas H. Lewis; vice-president, E. P. Veazie; treasurer, J. J. Thompson; secretary, George Edwards; directors, E. M. Boagni, E. P. Veazie, M. Halphen, M. Vilaseca, J. J. Thompson, J. P. Salzan, Isaac Roos, J. B. Sandoz, Thos. H. Lewis, F. J. Deitlein, H. E. Estorge, R. Lee Garland, E. D. Estelle, Chas. F. Boagni, Joseph M. Boagni, B. H. Pavay and Oscar Dardeau.

### Along the Buffalo River.

Mr. Griff Glover, president of the North Arkansas Railway & Power Co., and also secretary, treasurer and general manager of the Chouteau Land & Lumber Co., writes from Bloomfield, Mo., to the Manufacturers' Record that parties interested in timber and mineral properties along the Buffalo river propose building the road primarily for the purpose of tapping their holdings, "although," he continues, "the

marvelous mineral and timber wealth of the territory in question justifies us in believing that the secured tonnage will yield us a satisfactory income outside of our personal holdings. While our investments have been restricted exclusively to undeveloped mineral and timber properties, the territory through which we propose to build is in quite an advanced state of development for that section."

### Augusta & Elberton.

The Augusta & Elberton Railroad, recently chartered in Georgia, has organized by electing officers as follows: President, C. B. Young; vice-president, J. E. Hogan; secretary and treasurer, F. T. Lockhart, all of Augusta; board of directors, John Zellers, Lincolnton; W. C. Powell, Pansy; A. W. Smith, Appling, and Messrs. F. T. Lockhart, C. B. Young, J. E. Hogan and W. C. Wardlaw, Augusta.

It is expected construction work will begin about June 1, and that the company will be able to complete 20 miles of line by December next. The company is said to be in the market for rails, ties, motive power and rolling stock. Another meeting is to be held on June 3 to act upon a proposed bond issue. The permanent office of the company is in the Leonard Building at Augusta.

### Mobile, Jackson & Kansas City.

According to reports from different points along the line, the construction of the extension of the Mobile, Jackson & Kansas City Railroad is progressing rapidly, and it is expected that the entire line will be completed by next fall. Nearly all of the grading is said to be finished between Laurel and Pontotoc, Miss., at which latter point connection is made with the old Gulf & Chicago Railroad, which is now owned by the Mobile, Jackson & Kansas City, and which is being converted from narrow gauge to standard gauge. When all is finished the company will have a complete standard-gauge line from Mobile, Ala., through the entire length of the State of Mississippi to Middleton, Tenn., the latter point being on the Southern Railway.

### Two New Arkansas Lines.

Two new railroad corporations have just been chartered in Arkansas. One of these is the Hoxie, Strawberry River Valley & Western Railroad Co., which proposes to build from Hoxie to Franklin, about 50 miles. This road will run through Lawrence, Sharp and Izard counties. The directors are J. H. Stump, R. S. Thomas, O. V. Rosenberg, L. T. Andrews, W. A. Chapman.

The other line is the Perla Northern Railroad Co., which it to build from Perla, in Hot Spring county, to Whittington, in Garland county, about 25 miles. The directors are A. Strauss, R. W. Griswold, C. L. Briant, E. N. Strauss, C. A. Figley.

### Alabama Central.

The Alabama Central Railway Co., with offices at Montgomery, Ala., writes the Manufacturers' Record that it has completed nine miles of grade between Booth, on the Mobile & Ohio Railroad, and Autaugaville, Ala. Tracklaying will begin within 10 days. Large tracts of hardwood and long-leaf yellow-pine timber land are on the line. At Autaugaville there is a valuable stream developing 350 horse-power. About 7000 bales of cotton are grown annually in the Autaugaville district. The railroad company is doing all its construction under the supervision of W. C. Stokes, general manager, and W. H. Garrett, engineer.

### Mobile, Volanta & Pensacola.

Charles Barclay, one of the incorporators of the Mobile, Volanta & Pensacola

Railroad, is reported as saying that engineers are now at work on the survey. This line is to run from Volanta, on the eastern shore of Mobile bay, one mile north of Fairhope, to Pensacola, Fla., about 50 miles. Connection with Mobile will be made by steamer, and it is stated that work is already begun at Volanta on a pier which will be 1800 feet long, extending to mean deep water. The railroad is expected to develop a considerable amount of territory hitherto uninhabited.

#### Nashville to McMinnville.

The Nashville, McMinnville & Woodbury Railway Co. is about to begin construction on its proposed line 70 miles long from Nashville to McMinnville, all in the State of Tennessee. The Ellis Construction Co., which has general charge of the construction, has let the grading contract for part of the line to Philip Brady of Nashville. The road is to be operated by electricity. C. M. Henley of Columbus, Ohio, is president of the company, which is said to be backed by capitalists of that city and of Chicago.

#### Caney & West Liberty.

The Caney & West Liberty Railroad Co. of Morgan county has been incorporated in Kentucky by W. M. Reed, A. G. Owsley, C. M. Martin, W. B. Smith and W. B. Kennedy, all of Paducah. The line will start at Cannel City and run via Caney to West Liberty, a distance of eight miles. It will connect with the Morehead & West Liberty Railroad, which runs south from Morehead, on the Chesapeake & Ohio Railway, to West Liberty.

#### New Station at Mobile.

The Southern Railway, according to a dispatch from Mobile, Ala., has broken ground there for the proposed new union passenger station, which will have a frontage of 350 feet and will be 700 feet long. There will be nine tracks in the depot, which will, it is understood, be used by the Southern Railway, the Mobile & Ohio Railroad, the Louisville & Nashville Railroad and the Mobile, Jackson & Kansas City Railroad.

#### Railroad Notes.

Mr. Jules Godchaux, general manager of the Franklin & Abbeville Railway, writes from New Orleans, La., to the Manufacturers' Record that the company has not as yet determined regarding the extension to Royville. The rights of way have been secured, but construction will not begin for sometime.

A report from Houston, Texas, quotes Mr. Jeff N. Miller, manager of the Houston & Texas Central Railroad, as confirming the report that on June 1 he will become vice-president and general manager of the St. Louis, Brownsville & Mexico Railway, which is now being built by Col. Uriah Lott, B. F. Yonkum and others from Sinton to Brownsville, Texas.

The Seaboard Air Line reports for March gross earnings of \$1,282,667, an increase of \$85,334, or 7.1 per cent., as compared with March, 1903. For nine months from July 1 to March 31, inclusive, the gross earnings were nearly \$10,000,000, the exact figures being \$9,979,015, an increase of \$509,482, or 5.4 per cent., as compared with the corresponding period of the last fiscal year.

A report from Morganton, N. C., says that the W. M. Ritter Lumber Co. is extending its railroad that runs from Cranberry to Pinola, in Mitchell county, so as to connect with the Carolins & Northwestern Railway on Wilson's creek. This company is developing a tract of 42,000 acres of timber lands, the timber having been purchased by it from the Pemcarden Lumber Co.

## TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

#### Cotton Mill for Shreveport.

Mr. J. H. Whyte, secretary-manager of the Shreveport (La.) Progressive League, referring to the letter in the Manufacturers' Record from Mr. Z. V. Peacock on the opportunities for an overall factory at Cochran, Ga., writes:

"I wish to say that there is, perhaps, no city in the South that offers better facilities for a cotton mill than Shreveport. This is a city of 30,000 people, and has 11 railroad lines. It is the very center of the famous Red River cotton district, which grows the longest staple grown in this country. The business men here will most heartily co-operate with any cotton-mill capitalists who would come here and make an investigation. I would be glad to furnish any information to anyone writing asking for same, and if this letter would reap the same results as were reaped by that of Mr. Peacock the Progressive League will always have reason to be exceedingly grateful to the Manufacturers' Record."

#### A \$200,000 Increase.

At a meeting of the directors of the Woodside Cotton Mills last week it was decided to increase the company's capital stock from \$200,000 to \$400,000 for the purpose of enlarging the plant at Greenville, S. C. An additional building will be erected, to be joined to the present structure, and an equipment of 30,720 spindles and looms to match will be installed therein. This mill has been in operation for one year, and it was the favorable outlook for future business that brought about the decision to enlarge. There are at present 11,280 spindles and 300 looms in the plant, manufacturing light-weight fancy goods. John T. Woodside, president, and the former directors have been re-elected. Mr. Woodside will at once arrange to make the necessary contracts for the improvements.

#### Baltimore's \$200,000 Mill.

James E. Hooper of 15 E. Franklin street, Baltimore, Md., has selected site for the establishment of his 10,000-spindle cotton mill, reported in March as to be built. He has decided to locate the plant at Woodberry, where are several mills of the Mt. Vernon-Woodberry Cotton Duck Co., of which Mr. Hooper was president until last February, when he resigned. Plans and specifications for the mill building have been accepted, and the work of construction will begin soon. Contract for the machinery has been signed. As previously stated, this mill will produce cotton specialties, some of a character not heretofore manufactured in the United States, and from 200 to 300 operatives will be given employment. It is probable that about \$200,000 will be invested.

#### The Knitting Mill at Columbus.

Recently the Manufacturers' Record announced that the George W. Kavanaugh Manufacturing Co. of Cohoes, N. Y., had selected Columbus, Miss., as the location for its proposed Southern mill. Further facts are that a modern brick building will be constructed, at an estimated cost of \$25,000, to accommodate the plant. Plans and specifications have been prepared. This structure will be equipped with steam plant, electric lights, automatic sprink-

lers, heating apparatus and sewerage. As previously stated, the product will be fleece-lined underwear.

#### To Add 25,000 Spindles With Looms.

A meeting of the stockholders of the Lorry Mills of Gastonia, N. C., was held last week, at which it was decided to fill the present buildings with machinery. This company originally built its mill for an equipment of 50,224 spindles and 1680 looms, but only about half that number has been installed and in operation. There will therefore be 25,112 spindles and 840 looms put in position. The company's capital stock will be increased from \$1,250,000 to \$1,500,000 in connection with these betterments. Coarse heavy goods for export is the product.

#### Completing Clinton No. 2.

The Clinton (S. C.) Cotton Mills' No. 2 mill building is nearing completion, and the machinery will be installed soon. This company has been pushing during the past year its improvements in accordance with previous announcements. It engaged Messrs. O. A. Robbins & Co. of Charlotte, N. C., as the engineers in charge, and has built a modern structure, providing space for the installation of 22,528 spindles and 548 looms, which will increase the total equipment to 40,000 spindles and 1000 looms. About \$200,000 is the cost of the improvements.

#### The Cotton Movement.

In his report for May 6 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 249 days of the present season was 9,526,867 bales, a decrease under the same period last year of 565,661 bales; exports were 5,564,946 bales, a decrease of 713,459 bales; takings by Northern spinners 1,951,503 bales, a decrease of 22,346; by Southern spinners 1,635,947 bales, an increase of 33,452 bales.

#### Textile Notes.

Newberry (S. C.) Cotton Mills has declared a semiannual dividend of 4 per cent.

Laurens (S. C.) Cotton Mills has declared a semiannual dividend of 6 per cent.

It is stated that the net earnings of the Enterprise Cotton Mills of Kings Mountain, N. C., amounted to 14 per cent. during the past year.

Athens (Tenn.) Woolen Mills has filed amendment to charter increasing capital stock from \$75,000 to \$125,000, presumably for the purpose of enlarging the plant.

The Hutcheson Manufacturing Co. of Banning, Ga., will double its 5000-spindle plant. It has completed the erection of an additional building to accommodate the new machinery, and has expended about \$8000 to improve its water-power plant.

Mandeville Cotton Mills, Carrollton, Ga., has let contract for 3000 spindles, which are being installed, and will increase the company's equipment to about 9000 spindles. This enlargement is undertaken in order to abandon night operating and provide the looms with plenty of yarn.

Raleigh (N. C.) Cotton Mills has awarded contract to C. P. Snuggs for erection of an additional building 38x40 feet in size. Last December the company announced its intention to erect an additional building and install extra lappers, carding machines, etc., and make other improvements, all to cost \$11,000.

Messrs. R. L. Moss & Co. of Athens, Ga., have purchased the Athens Manufacturing Co. property. Their bid of \$86,000 has been confirmed by the courts, and the company will be reorganized. The new company will modernize the plant, install-

ing new machinery wherever necessary. The mill has 10,000 spindles and 350 looms.

Kesler Manufacturing Co., Salisbury, N. C., has awarded contract for the erection of its additional building reported last week. This new structure will be one story high, 100x120 feet, and is to be equipped with the 6200 spindles now in the old Littman cordage mill. The company will not increase its total equipment, merely making these changes to consolidate its equipment in one establishment.

Wm. J. Hooper Manufacturing Co., Baltimore, Md., is proceeding with the construction of the \$60,000 building for its cotton twine and net mill, previously reported, the Flynt Building & Construction Co. of Palmer, Mass., being the contracting engineer and architect in charge. This latter company is preparing plans and specifications for another structure needed—the tarhouse. This will be two stories high, of brick, 30x123 feet, to cost \$20,000. As stated previously, the Hooper mill is to operate 80 looms.

#### QUOTATIONS OF COTTON YARNS.

By Paulson, Linkroum & Co., New York, Philadelphia and Chicago, May 10.

No. 10s-1 and 12s-1 warps.....	18½@19
No. 14s-1 warps.....	19@19½
No. 16s-1 warps.....	20@20½
No. 6s to 10s yarn.....	18½@19
No. 12s-1.....	19@1
No. 14s-1.....	19@19½
No. 16s-1.....	20@20½
No. 8s-2 ply soft yarn.....	19@1
No. 8s-2 ply hard.....	19½@20
No. 12s-2 ply hard.....	19½@20
No. 14s-2 ply.....	20@20½
No. 16s-2 ply.....	20½@21
No. 20s-2 ply.....	20½@21
No. 24s-2 ply.....	22@
No. 26s-2 ply.....	23½@
No. 30s-2 ply.....	23@
No. 40s-2 ply.....	27@28
No. 8s-3, 4 and 5 ply.....	19@1
No. 20s-2 ply chain warps.....	20½@21
No. 24s-2 ply chain warps.....	22@
No. 26s-2 ply chain warps.....	23½@
No. 30s-2 ply chain warps.....	23@
No. 16s-3 ply hard twist.....	20½@21
No. 20s-3 ply hard twist.....	21@
No. 26s-3 ply hard twist.....	23½@

Very dull and weak; prices nominal.

#### Lumber Notes.

The timber trade in Lawrence county, Tennessee, represents about \$50,000 a year.

The lumber and crossties shipped from Fernandina, Fla., in April amounted to 17,821,769 feet.

Joseph Lenton, land agent of the Illinois Central Railroad, is seeking to purchase 70,000 acres of timber land in the neighborhood of Baton Rouge, La.

A dispatch from Gainesville, Fla., states that M. L. Moore, who operates turpentine stills at Rochelle and Grove Park, has disposed of his interest to James Holder and J. L. Hobbs for \$40,000.

The Kirby Lumber Co. of Beaumont, Texas, has received an order for 170,000 feet of lumber to be used in the construction of the rice mill of the McFaddin, Wiess & Kyle Rice Milling Co.

C. W. Wheelock, general manager of the Engineering Company of America, is spending a few days at Roanoke, Va., where the engineers of the company have been making an examination for a proposed electric railroad.

The Wilmington (N. C.) Chamber of Commerce has elected Messrs. J. Allen Taylor, president; S. P. McNair, vice-president, and James Kyle, secretary.

Capt. J. T. McAnnally of Clarendon, Ark., reports at Memphis the existence of oil underlying a large area along the White river, near Clarendon.

#### Summer Excursion Tickets

to the famous resorts in Virginia and the Carolinas reached via Southern Railway now on sale in Baltimore. Office, 317 North Charles street.

## MECHANICAL

### New Plate-Straightening Roll.

The accompanying halftone shows a new plate-straightening roll designed and built by Bertsch & Co., Cambridge City, Indiana.

able receptacle in which the material may be shipped. Further, the easy access to the inside of the mill for cleaning or any other purpose is another great advantage, and on account of its enormous capacity in comparison to the small horse-power expended this mill is most economical.

The frame is constructed of heart timbers, tenoned and securely draw-bolted.

The shakers are well constructed, perfectly balanced, and oscillate in opposite directions, reducing vibration to a minimum. They are floored with best smooth galvanized iron, and clothed with best wire

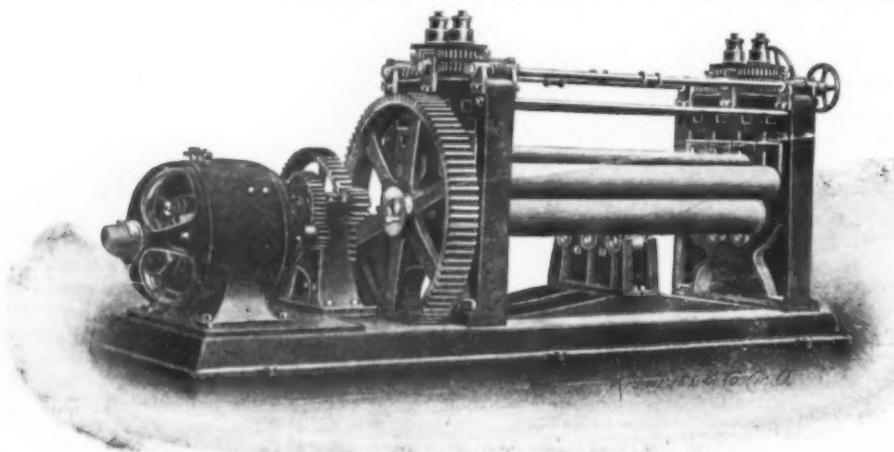
machine so as to drive from either side.

Pulley is standard iron, evenly balanced, and set-screwed. Less than one horsepower is required. The vibration is slight, the friction barely perceptible and reduced to a minimum.

This machine was designed and is manufactured exclusively by the Atlanta Utility Works, Inc., East Point, Ga.

### Something New in Kilns.

Manufacturers of bricks who are interested in improvements intended to facilitate the conduct of their plants as well as to improve and better the character of the product should investigate the new kilns invented by F. W. Dennis. This is some-



NEW PLATE-STRAIGHTENING ROLL.

The machine has seven rolls, four in the upper series and three in the lower series. It is also built with either eight or nine rolls if desired. Each roll in the upper series is arranged for either independent or universal adjustment by means of steel worms and steel screws, which can be done accurately by means of indicators. Either end of any of the top rolls can be adjusted independently by removing the cap over the two center adjusting screw controlling same. This obviates the necessity of having four or five handwheels placed on different sides of the machine; hence it is operated entirely from one end. The top rolls can be raised high enough for all standard work, but, like any other standard machine, provision can easily be made for raising them any required distance from the bottom rolls for special work. The second top roll is placed slightly forward, and acts as a pinch roll, which facilitates feeding the plates and also causes it to exert a compressing and stretching pressure. The front and rear top rolls are smaller than the principal rolls, as they perform comparatively light duty; hence they are placed closer to the adjacent rolls than they could be if larger, and therefore they are more effective on the outer surface of the plates, especially on light plates. The machine is also arranged for curving or bending, the same as a regular bending roll.

The housings and gears are amply strong, and the pinions are made of cast steel. It has a heavy baseplate, supporting a roller center bearing for the lower rolls. The entire machine is self-contained. It is provided for motor, engine or belt drive, and is made any size for plates from one-eighth to one and one-half inches thick.

### New Grinder and Pulverizer.

An accompanying illustration represents a new design in grinding and pulverizing machinery, and it is claimed by the owner and patentee that it possesses advantages which cannot be found in any other mill. He claims that it can grind or pulverize sticky substances to a fineness to which no other mill heretofore was able to reduce these materials. Outside of rock flint in hardness, this mill can handle any material that must be reduced. Another great advantage claimed is that without screen or changing the speed of the mill the fineness of the product desired can be regulated. In other words, the mill is able to deliver a finished product, either in powdered form or granulated, without the aid of a screen, and discharge the material from the mill direct into any suit-

The patents applied for will be assigned to the J. R. Alsing Company, which will manufacture the machine, the Alsing Pulverator. Main offices of the Alsing Com-

pany at 505-6, No. 136 Liberty street, New York.

screening or perforated metal, as desired. The shaker hangers are double-motion frictionless, designed and constructed so that the shakers can be perfectly adjusted



NEW GRINDER AND PULVERIZER.

### Double Huller-Shaker Machine.

An accompanying illustration shows a machine especially designed to support huller and separate bulk of meats; huller

(while running) to give desired pitch to shaker. The maker furnishes the double block and strap eccentrics keyed to shaft, or eccentrics turned in shaft, with machine-steel forged straps (not cast-iron straps).

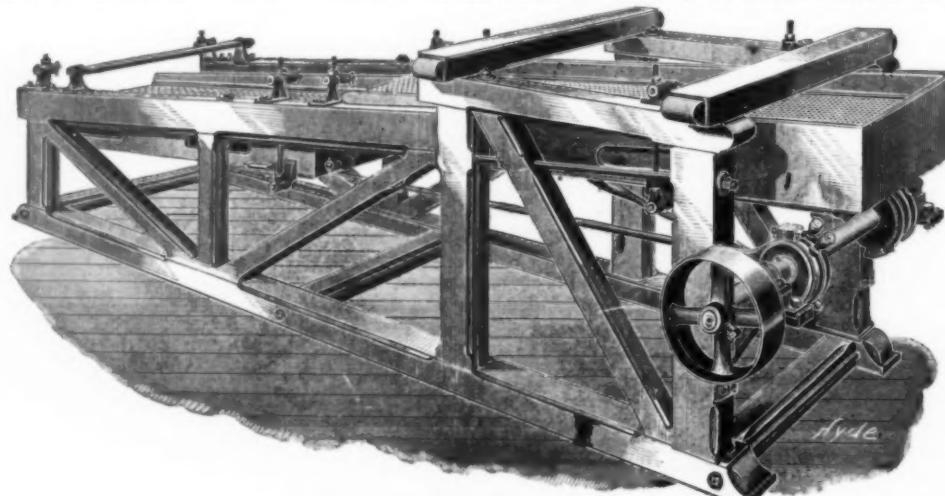
The pedestal bearings are babbitted and

thing new in kilns, and an illustration of same is presented herewith. The Dennis Double-Chamber Up and Down Draft Kilns embody a number of important features that make them great fuel-savers, and their merits will instantly appeal to the practical man. These kilns can be built at a low cost and operated at a minimum figure. Some of the most extensive brick plants in the South have adopted these kilns. Further and complete particulars can be obtained by addressing the inventor, Frederick W. Dennis, 145 Walton street, Atlanta, Ga.

### Early May Fishing in New Hampshire and Maine.

Good fishing is being reported from New England's lakes. In New Hampshire last week in Lake Winnipesaukee over 30 trout averaging four pounds apiece were caught, and the salmon are topping six and one-half pounds. Newfound lake is sending forth some likely samples, and Sunapee has her usual crowd of callers. In Seabago down in Maine last week some bouncers weighing 14, 12, 10, 8 and 7½ pounds, respectively, were landed. The fishing in all lakes where the ice has left is first-class, and, from present outlook, it appears that Moosehead and Rangeley lakes will be on the fishing list by the middle of next week.

Don't go fishing without the Boston & Maine's beautiful illustrated booklet, "Fishing and Hunting," and the new book, just out, giving the game laws of Maine.



DOUBLE HULLER-SHAKER MACHINE.

delivers on the upper shaker. In building this machine all materials used are of the best quality and carefully selected to combine the greatest strength and durability.

scraped on extra-heavy angle-plates firmly bolted to frame, and constructed to prevent end-oscillation.

Eccentric shafts are standard, interchangeable, and can be reversed on

New Hampshire, Vermont, Massachusetts, Nova Scotia, Newfoundland and New Brunswick. You can procure them both by sending two-cent stamp to the general passenger department Boston & Maine Railroad, Boston, Mass.

# Construction Department

## TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

### EXPLANATORY.

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

### ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

### WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

### BALTIMORE BUILDING NOTES.

#### Business Buildings.

Baltimore—Hotel and Restaurant.—Miss Sadie Höfflin has engaged W. L. Minor, architect, 20 Clay street, to prepare revised plans and specifications for hotel and restaurant to be erected on the northwest corner Pratt and Centre Market Space. Structure to be four stories high; 30x75 feet; pressed-brick front; marble and terra-cotta trimmings; concrete foundation; steel beams and girders; cast-iron columns; slag roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; elevator; cost to be about \$15,000. This building previously referred to.

Baltimore—Store Building.—John A. Barker & Son, 14 East Lexington street, as agents for the property located at 14 North Charles street, have engaged J. Appleton Wilson, architect, 305 Courtland street, to prepare plans and specifications for store building to be erected on the site. Structure to be four or five stories high; 25x70 feet; ornate-brick front; concrete foundation; tin or slag roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system.

Baltimore—Dwellings.—Charles E. Spalding, Room 6 at 213 Courtland street, has purchased site for \$15,000 at Madison avenue and Mosher street for the erection of 14 dwellings; white-marble fronts; Roman brick, etc.

Baltimore—Lunchroom.—The Safe Deposit & Trust Co., 13 South street, trustee, will erect two-story brick building at 14 West Baltimore street at a cost of \$15,000. Structure to be occupied by Monogram Lunchroom, C. O. Cairnes, manager, 15 Pleasant street.

Baltimore—Warehouse.—Further details have been obtained concerning warehouse for Frank Brown, Charles and Read streets, plans and specifications for which were prepared by Henry Brauns, architect, 113 West Saratoga street, and which will be located at 418, 420 and 422 East Pratt street. Structure to be two stories high, 48.10x66.6 feet; brick; concrete foundations; slag or tin roofing; electric wiring and fixtures; sanitary plumbing; cost to be about \$12,000.

shutters and doors; galvanized-iron cornice; tin roofing; prismatic glass; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator. Plans are now in the hands of the selected builders for bids.

Baltimore—Warehouse.—John Henderson has awarded contract to Burnham & Wells, Builders' Exchange Building, Charles and Lexington streets, for erection of warehouse to be located at 34 East Pratt street after private plans and specifications. Structure to be four stories high, 25x90 feet; brick with granite base; concrete foundation; steel beams; slag roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; cost to be about \$10,000. This building previously mentioned in this column.

Baltimore—Warehouse.—Mrs. Rebecca Dix has awarded contract to Harry H. Brown, builder, 109 Clay street, for erection of warehouse to be located at 9 East Lombard street. Structure to be five stories high; 25x60 feet; Roman-brick front; concrete foundation; steel beams and girders; cast-iron columns; tin roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; power elevator; cost to be about \$10,000. This building previously mentioned in this column.

Baltimore—Warehouse.—Benjamin Perlman, 112 West Camden street, has engaged Louis Levi, architect, Central Savings Bank Building, Charles and Lexington streets, to prepare plans and specifications for warehouse to be located at 116 South Gay street. Structure to be four stories high; 25x100 feet; brick; tin roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator; store front.

Baltimore—Store Building.—Samuel Jacoby, 2301 Madison avenue, has engaged Louis Levi, architect, Central Savings Bank Building, Charles and Lexington streets, to prepare plans and specifications for store building to be located at 418 East Baltimore street. Structure to be three stories high; 23x100 feet; brick, with ornamental trimmings; concrete foundation; galvanized-iron cornice; tin roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system; cost to be about \$11,000. This building previously mentioned in this column.

Baltimore—Dwellings.—Walter Westphal, builder, 1214 East Federal street, will erect for himself nine dwellings to be located on Bradford street, near Eager, after his own plans. Structures to be two stories high, 12x37 feet; brick; tin roofing; galvanized-iron cornices; sanitary plumbing; gas fixtures; furnace-heating system; cost to be about \$9000.

Baltimore—Store Building.—Likes, Berger & Co., Lexington street, near Eutaw, who own 10 and 12 East Baltimore street and have leased 8 East Baltimore street, have engaged Sperry, York & Sawyer, architects, Builders' Exchange Building, Charles and Lexington streets, to prepare plans and specifications for store building to occupy the site.

Baltimore—Hotel.—Further details have been obtained concerning addition to hotel for Jerome H. Joyce, 312 West Camden street. Structure to be four stories high, 50x15 feet; brick; concrete foundation; tin roofing; private baths and toilets; electric wiring and fixtures; sanitary plumbing; steam-heating system; cost to be about \$20,000. Morrow

and specifications will be arranged for in the near future. The site is 96.6x147 feet; office in City Courthouse, Calvert and Fayette streets; Wm. H. Conkling, president.

Baltimore—Business Building.—The Continental Trust Co., Baltimore and Calvert streets, will erect, as trustee for the Carroll estate, a modern building. Structure to be five stories high, 70x84 feet; brick and iron; cream-white-brick front; sanitary plumbing; steam-heating equipment; electric wiring and fixtures; power elevators, etc.; cost to be about \$50,000. Messrs. Parker & Thomas, 612 North Calvert street, architects, are preparing the plans and specifications. Final plans as to interior of the structure have not been decided, as the owners desire to conform to the needs of tenants, which latter have not been secured.

Baltimore—Warehouses.—Further details have been obtained concerning warehouses for the Margaret J. Bennett estate (the Safe Deposit & Trust Co., 13 South street, trustee) to be located at 30, 32 and 34 South Charles street, plans and specifications for which were prepared by Charles E. Cassell & Son, architects, 411 North Charles street. Structures to be five stories high with basement; brick with terra-cotta trimmings; concrete foundations; concrete floors; cast-iron columns; fireproof construction; metal window frames and sashes; metal doors and stairways; wireglass; fireproof vault; electric wiring and fixtures; sanitary plumbing;

steam-heating systems; power elevators. Plans for these buildings, together with those for 41, 43 and 45 Hopkins Place, details of which were previously reported in this column, will be placed in the hands of the selected bidders on May 11.

Baltimore—Warehouse.—Mrs. Sarah G. Rosenstock, 2029 Eutaw Place, has engaged Charles E. Cassell & Son, architects, 411 North Charles street, to prepare plans and specifications for warehouse to be located at 16 West Baltimore street. Structure to be five stories high, 22.6x81.5 feet; brick with terra-cotta trimmings; concrete foundation; tin roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator.

Baltimore—Warehouse.—John Cowan, 106 West Madison street; Henry Smith & Sons Company, 116 South Regester street; M. C. Davis, Builders' Exchange Building, Charles and Lexington streets; J. Henry Miller, 110 Dover street; Edward Brady & Sons, 1109 Cathedral street; Morrow Bros., 212 Clay street, and D. C. Weeks & Son, 9 East Centre street, have been selected by the Safe Deposit & Trust Co., 13 South street (as trustee for the Murray estate), to bid on warehouse to be located at 7 Hanover street, plans and specifications for which were prepared by Ellcott & Emmart, architects, 323 North Charles street. Structure to be four stories high, 20.2x69.8 feet; brick with ornate front; concrete foundation; steel beams and girders; cast-iron columns; fireproof construction; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator; cost to be about \$15,000. This building recently mentioned in this column.

Baltimore—Warehouse.—Victor G. Bloedel Company, Caton avenue, near Frederick road, will erect for itself warehouse for cloth storage after its own plans and specifications. Structure to be one story high, 38x75 feet; brick with stone base; concrete foundation; corrugated-iron roofing; cost to be about \$4000.

Baltimore—Warehouse.—Mrs. Lawrence Balliere has awarded contract to Henry Smith & Sons Company, builder, 116 South Regester street, for erection of warehouse to be located on German street, near Hanover, after plans and specifications by Jackson C. Gott, architect, 218 North Charles street. Structure to be five stories high, 22.6x70.10 feet; brick with ornamental terra-cotta trimmings; granite base; steel beams and girders; cast-iron columns; galvanized-iron cornice; slag roofing; fire-escape; fire shutters; fireproof vault; prismatic glass; metal window frames and sashes; wireglass; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator; cost to be about \$30,000. This building recently mentioned in this column.

Baltimore—Warehouses.—Edward Markell, Hoen Building, North and Lexington streets, will erect two warehouses to be located at 5 and 7 East Lombard street. Structures to be five stories high, 45.6x62 feet; Roman-brick front with ornamental trimmings; concrete foundation; tin roofing; galvanized-iron cornices; steel beams; electric wiring

## Detailed Information

As to every building to be erected in Baltimore, its character, size, method of lighting, heating, etc., is published by the MANUFACTURERS' RECORD. Every industrial and railroad enterprise, every municipal improvement, every important building projected in the whole South is covered with the same painstaking detail in advance of all other publications. Those who need this information daily can find it in the *Daily Bulletin of the Manufacturers' Record*, subscription price \$25 a year. The *Daily Bulletin* is published every business day in the year for the purpose of enabling manufacturers, contractors, engineers and others to keep in daily touch with the rebuilding of Baltimore and the industrial, railroad and financial development of the South and Southwest.

Baltimore—Hotel.—Further details have been obtained concerning hotel for Bernard Reilly, St. Paul and 22d streets, to be erected on the northwest corner Calvert and Pratt streets after plans and specifications by W. H. Shaw, architect, 434 22d street. Structure to be three stories high; 41x58 feet; brick, with stone trimmings; concrete foundation; steel beams and girders; cast-iron columns; galvanized-iron cornice; tin roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system. Permit has been issued for the building.

Baltimore—Warehouses.—C. M. Kemp, president C. M. Kemp Manufacturing Co., Oliver street, near Greenmount avenue, has engaged Woodruff-McLaughlin Co., constructing engineers and architects, 100 East Lexington street, to prepare plans and specifications for and superintend the construction of three warehouses to be located on Oliver street—one to be four stories high, 50x105 feet; one four stories high, 30x50 feet; one three stories high, 20x78 feet; pressed-brick fronts with stone trimmings; concrete foundations; steel beams and girders; slag roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system. Permit has been issued for the building.

Baltimore—Warehouses.—The Safe Deposit & Trust Co., 13 South street, trustee, will erect two-story brick building at 14 West Baltimore street at a cost of \$15,000. Structure to be occupied by Monogram Lunchroom, C. O. Cairnes, manager, 15 Pleasant street.

Baltimore—Warehouse.—Further details have been obtained concerning warehouse for Frank Brown, Charles and Read streets, plans and specifications for which were prepared by Henry Brauns, architect, 113 West Saratoga street, and which will be located at 418, 420 and 422 East Pratt street. Structure to be two stories high, 48.10x66.6 feet; brick; concrete foundations; slag or tin roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system.

Baltimore—Bank Building.—The Savings Bank of Baltimore has purchased for \$300,000 the site southeast corner of Baltimore and Charles streets for the erection of bank building for the bank's exclusive use. Plans

and fixtures; sanitary plumbing; steam-heating system; power elevators; cost to be about \$20,000. Plans and specifications for these buildings have been prepared and are now in the hands of selected bidders.

Baltimore—Warehouse.—Estimates are now being made by the selected bidders for erection of warehouse for Harris & Thompson, 216 St. Paul street, to be located at 115 South Gay street. Structure to be four stories high, 25x83.6 feet; sand-brick front; stone trimmings; concrete foundation; slag roofing; galvanized-iron cornice; sanitary plumbing and gas fixtures; steam-heating system; one 1200-pound hand elevator; cost to be about \$10,000.

Baltimore—Warehouses.—Mrs. W. H. Cole has awarded contract to Henry L. Maas, builder, 306 Alisquith street, for erection of two warehouses to be located at 114 and 116 South Frederick street after plans and specifications by Edward Stork, architect. Structure to be three stories high; brick with stone trimmings; concrete foundation; tin roofing; galvanized-iron cornices; sanitary plumbing.

Baltimore—Warehouse.—The Johns Hopkins Hospital Trust Estate, J. C. Thomas, agent, 21 North Charles street, has engaged Ellicott & Emmart, architects, 223 North Charles street, to prepare plans and specifications for warehouse to be located at Lombard and Calvert streets. Structure to be five stories high, 83x115 feet; brick with stone trimmings; concrete foundation; mill construction; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator.

Baltimore—Warehouse.—The Colonial Trust Co., Saratoga street, near Charles, has engaged Ellicott & Emmart, architects, 223 North Charles street, to prepare plans and specifications for warehouse to be located at 3 Hanover street. Structure to be four stories high, with basement; sand-brick front with ornamental galvanized-iron trimmings; concrete foundation; concrete floor in basement; tin roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator; cost to be about \$15,000.

Baltimore—Store Buildings.—The Johns Hopkins Hospital, J. C. Thomas, agent, 21 North Charles street, has engaged Sperry, York & Sawyer, architects, Builders' Exchange Building, Charles and Lexington streets, to prepare plans and specifications for nine store buildings to be located on the northeast corner Light and Pratt streets and extending to Balderston street. Structures to be five stories high, 77.4x23.5 feet; brick with terra-cotta trimmings; concrete foundations; steel beams and girders; cast-iron columns; possibly of fireproof construction: electric wiring and fixtures; sanitary plumbing; steam-heating systems; power elevators. Seven of the buildings will face on Light street and two on Pratt street.

Baltimore—Store Building.—Lauron & Mary have engaged Charles E. Cassell & Son, architects, 411 North Charles street, to prepare plans and specifications for store building to be located at 10 West Lexington street. Structure to be four stories high, 24.3x90.9 feet; brick with terra-cotta trimmings; concrete foundation; tin roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator. Geo. Bunnecke & Sons, 305 St. Paul street; John Hiltz & Son, 3 Clay street, and Morrow Bros., 22 Clay street, have been selected to bid on the work.

Baltimore—Office Building.—At a meeting of the stockholders of the Maryland Life Insurance Co., temporarily located at 410 West Fayette street, it was decided to rebuild its office building at 10 South street. Neither architect nor contractor has as yet been selected. William H. Blackford is president.

Baltimore—Store and Office Building.—J. Latimer Hoffman, 112 East Franklin street, has engaged William J. Beardsley, architect, 28 West Lexington street, to prepare plans and specifications for store and office building to be located at 11 East Lexington street. Structure to be six stories high with basement, 30x115 feet; buff-brick front with terra-cotta trimmings and limestone ashlar to third story; concrete foundation; steel beams; tin or slag roofing; first story to be constructed fireproof; electric wiring and fixtures; sanitary plumbing; steam-heating system; fire shutters; one power passenger elevator. This building previously mentioned.

Baltimore—Store Buildings.—Worthington & Ahrens, architects, 8 East Lexington street, are preparing plans and specifications for store buildings to be located at 17 and 19 East Baltimore street. Structures to be five stories high, 43.6x144 feet; brick with terra-cotta trimmings; concrete foundation; steel beams; tin roofing; galvanized-iron cornice;

electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevators; cost to be about \$50,000.

Baltimore—Store Building.—Mrs. Rebecca H. White, 707 St. Paul street, has engaged Mottu & White, architects, 402 St. Paul street, to prepare plans and specifications for store building to be located at 425 East Baltimore street. Structure to be three stories high, 18x66 feet; brick front with ornate trimmings; concrete foundation; tin roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator; cost to be about \$30,000. This building previously mentioned in this column.

Baltimore—Office Building.—George R. Vickers, 205 North Calvert street, has awarded contract to D. W. & G. H. Thomas, builders, 419 North Charles street, for erection of office building to be located on German street, near Calvert, after plans and specifications prepared by the builders. Structure to be four stories high, 55x80 feet; brick front with limestone and terra-cotta trimmings; stone foundation; first floor to be of reinforced concrete construction; steel beams and girders; cast-iron columns; slag roofing; galvanized-iron cornice; fireproof; electric wiring and fixtures; sanitary plumbing; steam-heating system; power passenger elevator. This 57x98-foot structure will be enlarged and improved at a cost of \$10,000. Louis Bouchat is president of company.

Baltimore—Warehouse.—E. B. Hunting, 213 Courtland street, has awarded contract to J. H. Walsh & Bro., builders, 406 South Charles street, for erection of warehouse to be located at 304 Hanover street after plans and specifications by the builders. Structure to be four stories high, 28x106 feet; brick front with galvanized-iron trimmings; concrete foundation; steel beams; slag roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; power elevator; wireglass; cost to be about \$50,000. This building previously mentioned in this column.

Baltimore—Warehouse.—James E. Hooper, 15 East Franklin street, has selected site at Woodberry for the erection of his proposed 10,000-spindle cotton mill previously reported. Plans and specifications for the building have been adopted, and the work of construction will soon be arranged for. The machinery has been ordered. Cotton specialties, some of a character not heretofore produced in the United States, will be manufactured. It is probable that \$200,000 will be invested.

Baltimore—Warehouse.—Mrs. William A. Dickey has awarded contract to Israel Griffith, builder, Builders' Exchange Building, Charles and Lexington streets, for erection of warehouse to be located at 309 Exchange Place after plans and specifications by Haskell & Barnes, architects, Central Savings Bank Building, Charles and Lexington streets. Structure to be five stories high, 33x88 feet; brick with stone trimmings; concrete foundation; tin roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; power elevator; cost to be about \$10,000.

Baltimore—Warehouse.—Brown & Griffith, 123 West Saratoga street, as agents for William R. Stewart of New York, have awarded contract to the Charles McCaul Company, builders, 123 West Saratoga street, for erection of warehouses to be located at 510 to 524 East Pratt street, 300 and 302 East Pratt street and 131 Cheapside after plans and specifications by Baldwin & Pennington, architects, 311 North Charles street. Structures to be three stories high; pressed brick fronts with stone trimmings; concrete foundations; tin roofing; galvanized-iron cornices; steel beams; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator. Mr. Rothholz will install equipment for cloth sponging.

Baltimore—Machinery Warehouse.—The Crane Company, manufacturer of wrought-iron pipe, steam and gas fittings, of Chicago, Ill., has leased the warehouse at 624 and 626 West Pratt street from Arthur D. Rivers. The building is 50x173 feet in size, and it will be remodeled and improved for the company's use as a warehouse for machinery and supplies, as Baltimore will be the company's distributing point for the South.

Baltimore—Manufacturing Building.—The heirs of Jane Summers Clunet have engaged W. H. Hodges, architect, Wilson Building, Charles and Saratoga streets, to prepare plans and specifications for light-manufacturing and store building to be located on the southeast corner Baltimore and Holliday streets. Structure to be five stories high, 16x171.6 feet; pressed-brick front with stone trimmings; concrete foundation; steel beams and girders; cast-iron columns; tin roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator. R. H. Frazier & Son, builders, 220 St. Paul street, have the contract for erection.

Baltimore—Electric-light and Power Plant. The Maryland Telephone & Telegraph Co. is negotiating for the purchase of a \$50,000 site for its electric-light and power plant reported in March. It was previously announced that the company intends investing \$1,000,000 in this plant. George R. Webb is president; office in Maryland Telephone Building, Lexington and Courtland streets.

Baltimore—Grocers' Specialties Plant.—Charles H. Read & Co., 702 West Baltimore street, have awarded contract to Thomas B. Stanfield & Son, builders, 109 Clay street, for erection of groceries plant to be located at 602 and 604 Raborg street, after plans and specifications by Mottu & White, architects, 402 St. Paul street. Structure to be five stories high, 27x57 feet; brick with stone trimmings; concrete foundations; slag roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; elevator; cost to be about \$6000. This building previously mentioned in this column.

Baltimore—Printing Plant.—John S.

Bridges & Co., printers, 2 East Saratoga street, have awarded contract to John A. Sheridan & Co., builders, 321 North Holliday street, for erection of printing plant to be located at 28 South Charles street after private plans and specifications. Structure to be five stories high, 40x110 feet; brick with stone trimmings; concrete foundation; steel beams and girders; tin roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator; cost to be about \$30,000. This building previously mentioned in this column.

Baltimore—Glass Factory.—H. P. Nivison, president Nivison Glass Co., mentioned in this column several times recently, has awarded contract to the Baltimore Bridge Co., Bush street and Baltimore & Ohio Railroad, for erection of glass factory building to be located at Fort avenue and Lawrence street. Structure to be one story high, 80x120 feet; stone foundation; steel construction covered with corrugated iron; steam-heating system; cost to be about \$9000.

Baltimore—Coat Pad Factory.—The American Coat Pad Co., 1007 and 1009 East Pratt street, has purchased the three-story building it now occupies for manufacturing purposes. This 57x98-foot structure will be enlarged and improved at a cost of \$10,000. Louis Bouchat is president of company.

Baltimore—Cotton Mill.—James E. Hooper, 15 East Franklin street, has selected site at Woodberry for the erection of his proposed 10,000-spindle cotton mill previously reported. Plans and specifications for the building have been adopted, and the work of construction will soon be arranged for. The machinery has been ordered. Cotton specialties, some of a character not heretofore produced in the United States, will be manufactured. It is probable that \$200,000 will be invested.

Baltimore—Printing Plant.—Incorporated: The Mergenthaler Press, with capital stock of \$6000, for conducting printing plant and publishing purposes. The incorporators are Messrs. Allen B. Maul, 1921 Garrett Avenue north; Frank A. Vinton, Eldridge E. Henderson, R. N. Nolley and Ben. H. McKindless.

Baltimore—Cloth Sponging.—Julius Rothholz, 410 West German street, has purchased 515 West Lombard street and engaged Louis Levi, architect, Central Savings Bank Building, Charles and Lexington streets, to prepare plans and specifications for building to occupy the site. Structure to be four stories high; brick; concrete foundation; tin roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator. Mr. Rothholz will install equipment for cloth sponging.

Baltimore—Machinery Warehouse.—The Crane Company, manufacturer of wrought-iron pipe, steam and gas fittings, of Chicago, Ill., has leased the warehouse at 624 and 626 West Pratt street from Arthur D. Rivers. The building is 50x173 feet in size, and it will be remodeled and improved for the company's use as a warehouse for machinery and supplies, as Baltimore will be the company's distributing point for the South.

Baltimore—Manufacturing Building.—The heirs of Jane Summers Clunet have engaged W. H. Hodges, architect, Wilson Building, Charles and Saratoga streets, to prepare plans and specifications for light-manufacturing and store building to be located on the southeast corner Baltimore and Holliday streets. Structure to be five stories high, 16x171.6 feet; pressed-brick front with stone trimmings; concrete foundation; steel beams and girders; cast-iron columns; tin roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator. R. H. Frazier & Son, builders, 220 St. Paul street, have the contract for erection.

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Baltimore—Printing Plant.—John S.

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Baltimore—Glass Factory.—H. P. Nivison, president Nivison Glass Co., mentioned in this column several times recently, has awarded contract to the Baltimore Bridge

Co., Bush street and Baltimore & Ohio Railroad, for erection of glass factory building to be located at Fort avenue and Lawrence street. Structure to be one story high, 80x120 feet; stone foundation; steel construction covered with corrugated iron; steam-heating system; cost to be about \$9000.

Baltimore—Cotton Mill.—L. H. Garner, engineer for the Flynt Building & Construction Co. of Palmer, Mass., has completed plans and specifications for another building for the cotton-twine mill, recently reported, of the William J. Hooper Manufacturing Co. Plant will be located at Barney and Bird streets. The structure mentioned above will be two stories high, 30x123 feet; concrete foundation; steel beams and girders; slag roofing; copper cornices; steam-heating system, etc.; cost to be about \$20,000. The Flynt Company has all the building contracts, and is now erecting the \$60,000 structure previously announced.

Baltimore, Md.—John W. Pope, builder, 1515 Myrtle avenue, wants catalogues of structural iron for building purposes.

Baltimore—Building Equipment and Supplies.—Henderson & Co., Limited, 218 West Fayette street, want subbids on the following building materials for the Daniel Miller building on which they are bidding: Brick; stone; terra-cotta; structural iron and steel work; metal work; metal window frames and sashes; rolling shutters; millwork; hardware; reinforced concrete work; painting and glazing; wireglass; prismatic glass; fireproofing material.

Baltimore—Building Materials.—The Woodruff-McLaughlin Company, constructing engineers and architects, 100 East Lexington street, are in the market for metal window frames and sashes; wireglass; fire shutters; mill window frames and sashes; glass.

#### ALABAMA.

Birmingham—Iron Works.—Lacey-Buck Iron Co. has amended charter, increasing capital to \$750,000.

Birmingham—Brick Works.—John W. Sibley and associates contemplate erection of plant for the manufacture of pressed brick in red, buff and fancy colors.

Birmingham—Car-coupler Works.—Beard Automatic Car Coupler Co. has been incorporated with \$100,000 capital to manufacture a car coupler invented by Andrew J. Beard. J. A. Pritchard is president, and F. M. Love, secretary-treasurer.

Birmingham—Stock Feeder.—A. A. Gambill and associates have incorporated the Birmingham Stock Feeder Co. with \$2000 capital to manufacture and sell an automatic stock feeder.

Huntsville—Canning Factory.—Judge E. Baylor Stewart states there is absolutely no truth in the report mentioned last week that he will erect \$10,000 cannery factory.

Huntsville—Paper Mill.—Reports state that William Richardson of Huntsville and William C. Loring of Boston, Mass., are interested in the establishment of mill to make paper by a new process from cotton stalks.

Marion County—Mineral Land.—Industrial & Finance Co. of Birmingham, Ala., has purchased 2000 acres of mineral land in Marion county and transferred same to the Reid Gap Oil, Gas & Mining Co. for development.

Mobile—Construction Company.—Jett Bros. Construction Co. has been incorporated, with \$500 capital, by J. T. Jett, D. E. Jett and Arthur Bailey.

Montgomery—Schoolhouses, Water-works, etc.—The city has voted \$350,000 of bonds for municipal improvements. Of this amount \$100,000 will be used for building schoolhouses, \$20,000 for the extension of water-works and \$50,000 for the extension of sanitary sewer system. Address The Mayor.

Morrisville—Mining.—Morris Mining Co. reported incorporated last week with \$25,000 capital for development of mineral lands in Calhoun county, will operate a four-log washer with a daily output of 300 tons of ore. J. D. Hunter, Anniston, Ala., is engineer in charge.\*

#### ARKANSAS.

Arkadelphia—Roller Mills.—Incorporated: Arkadelphia Roller Mills with \$40,000 capital to manufacture flour, etc. J. M. Adams is president; W. E. Adams, vice-president, and W. W. Adams, secretary-treasurer.

Batesville—Bottling Plant.—Batesville Bottling Co. has incorporated with \$5000 capital to manufacture and bottle soda water, cider,

etc. R. A. Dowdy is president; J. P. Adams, vice-president, and R. J. Morrow, secretary-treasurer.

Brinkley—Electric-light Plant and Water-works.—J. J. Ferrell is erecting electric-light plant and water-works to cost \$40,000. An artesian well, 800 feet deep, is also being sunk. Mr. Ferrell has 50-year franchise and 30-year contract for furnishing the city with light and water.

Little Rock—Bauxite Mines.—American Bauxite Co. has incorporated, with \$10,000 capital, to mine bauxite and other minerals; incorporators, W. F. B. Berger, Durand Whipple, R. G. S. Berger and William G. Whipple. Plant will have capacity 3,000,000 tons high-grade bauxite ore; W. F. B. Berger, mining engineer.

Little Rock—Electrical Machinery.—Ed. Cornish, Robert E. Wait, M. B. Sanders, T. B. Martin, Jr., E. T. Reynolds, Thomas B. Martin and associates have incorporated the Martin-Reynolds Electric Co., with \$15,000 capital, to install electrical machinery and sell electrical implements.

Little Rock—Spring-bed Company.—Pulaski Spring Bed Co. has been incorporated, with \$25,000 capital, by I. I. Lowden, C. P. Harnwell, O. P. Robinson, J. T. W. Tillar, E. M. Roots and others to deal in bed springs, mattresses, etc.

Little Rock—Grain Elevator.—It is reported that the J. Rosenbaum Grain Co. of Chicago, Ill., contemplates the erection of a grain elevator, to cost about \$100,000.

Mena—Slate Quarries.—It is reported that A. Danville will develop slate deposits near Mena.

Okolona—Mercantile.—East Murray Company has incorporated with \$15,000 capital. W. B. East is president; E. E. Murray, vice-president, and George Spencer, secretary-treasurer.

Pine Bluff—Stone and Brick Works, etc.—Culpepper Sand & Brick Co. has been incorporated to manufacture brick and artificial stone, operating public ferry across Arkansas river at Pine Bluff, etc. J. B. Culpepper is president; Madison Bowns, vice-president, and J. W. Dutton, secretary-treasurer; capital \$5000.

Warren—Saw-mill.—Arkansas Lumber Co. will erect another saw-mill.

#### FLORIDA.

Jacksonville—Road Building.—James Cribbs has contract at \$875 for building two and one-half miles of the Clearwater road.

White Springs—Lumber Manufacturing.—R. J. and B. F. Camp have incorporated the R. J. & B. F. Camp Lumber Co. with \$250,000 capital to manufacture and deal in lumber products, operate box factories, etc.

#### GEORGIA.

Americus—Oil Mill and Fertilizer Factory.—U. B. Harrold, Crawford Wheatley, H. R. Johnson, L. G. and C. M. Council and Frank Lanier have organized company for the erection of fertilizer factory and oil mill.

Athens—Cotton Mill.—R. L. Moss & Co. have purchased the 10,000-spindle and 350-loom plant of the Athens Manufacturing Co. They represent parties who will reorganize the company and modernize the plant, adding considerable new machinery.

Atlanta—Carpet Mill.—Southern Rug and Carpet Mills will erect three-story modern mill building of brick at a cost of \$14,000.

Banning—Cotton Mill.—Hutcheson Manufacturing Co. will install 5000 spindles, thus doubling its plant; an additional building three stories high has been erected, and the power developments have been augmented.

Blue Ridge—Manufacturing Medicine, etc.—J. J. Prewitt, J. Julian Prewitt and V. A. Prewitt have incorporated the Prewitt Medicine Co. with \$5000 capital to manufacture and deal in proprietary medicines.

Carrollton—Cotton Mill.—Mandeville Cotton Mills has ordered 3000 spindles additional, increasing equipment to 9000 spindles.

Cooerville—Cotton Ginnery.—J. T. Cooper will build cotton ginnery to cost \$4000. Foundation for building is now being completed.

Cordele—Public Improvements.—City contemplates issuing \$7500 of bonds for remodeling and equipping city hall, improving and extending water and sewer mains; R. L. Wilson, mayor.

Marietta—Paper Mill.—Marietta Paper Mill, M. M. Sessions and E. J. Powers, proprietors, is erecting additional buildings and installing additional machinery for doubling the capacity of plant.

Pendergrass—Cottonseed-oil Mill.—Pendergrass Cotton Oil Co. has been organized, with J. P. Roberts, president, and J. L. Lanier, vice-president, for the erection of 15-ton oil mill.

Savannah—Speedway.—It is estimated that \$90,000 will be the cost of the proposed automobile speedway which the Chamber of Commerce is endeavoring to build. A course six and one-half miles long and banked at the turns is contemplated. R. A. Blandford is chairman of the committee in charge.

#### KENTUCKY.

Ashland—Rod Mill.—Ashland Steel Co. will double the capacity of its rod mill, which now has an output of 250 tons per day.

Covington—Water-works.—City contemplates installing system of water-works; C. Z. Williams, mayor.

Cadiz—Water-works.—Company reported last week as organized by John J. Alexander, W. C. White, E. E. Wash and associates for the establishment of water-works has incorporated as the Cadiz Water Co. with \$11,000 capital.\*

Crider—Cannery.—Crider Canning Co. has been incorporated with \$10,000 capital, and is having plans prepared by G. W. Homer for two-story buildings, 90x56 and 56x36 feet, at a cost of \$6500, and a capacity of 20,000 cans of tomatoes, beans, etc., per day.\*

Junction City—Telephone Exchange.—A company has been organized, with Dr. J. B. Steele, president; R. H. West, vice-president, and J. D. Shelly, secretary, for the installation of telephone exchange.

Lawrenceburg—Flour Mill.—Cheatham & Cox have purchased site of the old Lawrenceburg roller mill and will erect flour mill.

Louis—Brick Works.—M. G. Wolford has purchased site on which to erect plant for the manufacture of brick.

Louisville—Tobacco Warehouse.—R. I. Nugent proposes forming \$40,000 company for the establishment of independent tobacco warehouse, and a site is now being investigated.

Louisville—Gas Works Improvements.—Louisville Gas Co. will erect addition increasing boiler capacity.

Louisville—Cold Storage Plant and Warehouse.—Schlitz Brewing Co., Milwaukee, Wis., has had plans prepared by Kirchoff & Ross for the erection of branch cold-storage plant and warehouse.

Middlesboro—Coal Company.—Blue Gem Coal Co., reported incorporated last week with \$7500 capital, has completed organization with Ray Moss, president; W. E. Garrett, vice-president, and R. C. Ford, secretary-treasurer.

Waverly—Coal Mines.—Waverly Coal Co. reported incorporated last week with \$35,000 capital, will invest \$10,000, arranging at once for the development of coal property; an 8x16 shaft will be sunk. B. F. Hancock is engineer, and Kech-Gounerman Company, Mt. Vernon, Ind., architects.

#### LOUISIANA.

Baton Rouge—Ice and Cold-Storage Plant and Brewery.—Reports state that E. C. Pratt and C. H. Snyder of Chicago, Ill., contemplate erecting ice and cold-storage plant and brewery at a cost of \$100,000.

Gueydan—Canal.—Inland Canal Co. is being reorganized and will increase capital from \$100,000 to \$500,000 for connecting the Jennings (La.) oil field with the Mississippi river by an inland canal along the Gulf coast, 60 feet wide at bottom and having a depth of six feet at mean low water. Company will not cut an artificial waterway the entire distance, but will take advantage of the lakes, bays and bayous. Charles D. Babbitt, Natchez, Miss., is chief engineer and general manager.

New Orleans—Terminal Improvements.—It is stated that the New Orleans Terminal Co. is to proceed at once with the terminal improvements proposed at Port Chalmette. These plans, according to latest unconfirmed reports, provide for the construction of a steamer slip of steel to be about 1500 feet long, 250 to 300 feet wide and 40 feet deep, at a cost of from \$1,000,000 to \$1,500,000; also remodeling present wharves and extending them at a cost of \$250,000 to \$300,000; also erecting grain elevators, warehouses, etc.; also erecting passenger depot, of steel, three stories high, costing \$300,000, etc. Louis S. Berg is president of the company and J. F. Hinckley is chief engineer.

#### MARYLAND.

Annapolis—Academic Building.—The Navy Department has awarded contract to the John Pierce Construction Co., New York city, for the construction of academic building at the Naval Academy at \$1,379,000. Building will be of brick with granite trimmings, and work of construction will begin as soon as practicable.

Cumberland—Music Clip.—A stock company has been organized for the manufacture of a

device invented by Irving C. Adams for keeping music in place and used with a music stand.

Cumberland—Glass Factory.—Potomac Glass Co., reported incorporated last week with \$25,000 capital for the manufacture of glassware, has let contract to John Davis for erection of factory building, and to Jas. H. Matthews & Co., Wellsburg, W. Va., for the construction of 12-pot furnace.

Mount Washington—Timber Land.—John Miller, Red Lion, Pa., has purchased 60 acres of poplar timber land near Mount Washington. The timber will be cut and shipped to Red Lion for manufacturing cigar boxes.

Washington, D. C.—Shop and Icehouse.—James Grant has contract to erect shop and icehouse for the American Ice Co. after plans by W. T. Davis.

#### MISSISSIPPI.

Aberdeen—Electric-light Plant, Water-works and Sewerage.—City will vote June 14 on the issuance of \$70,000 of bonds for the construction of water-works, sewerage system and electric-light plant; R. P. Houston, city clerk.

Baxterville—Incorporated: W. B. Leeke Company with \$25,000 capital.

Boonville—Cotton Gin and Grist Mill.—Boonville Ginnery & Milling Co. has been incorporated with \$40,000 capital.

Dundee—Mercantile.—C. T. Jones Mercantile Co. has been incorporated, with \$3000 capital, by C. T. Jones and N. R. Sledge.

Grenada—Machinery.—Incorporated: Grenada Machine Works, by C. B. Bolton, W. A. Rock, D. S. Watson and associates, with \$3000 capital.

Hattiesburg—Cracker Factory.—A. D. Draughn, R. B. Hay and others will establish \$50,000 cracker factory. Machinery has been ordered.

Hattiesburg—Lumber Plant, Saw-mill.—It is reported that Latimer & Joyce of Wisconsin have purchased the lumber plant at Hattiesburg and the timber tract, saw-mill and railroad at Millview of the Bauer Lumber Co. They will make extensive improvements, increasing the capacity.

Hiwanee—Lumber.—Hiwanee Lumber Co. has been incorporated, with \$50,000 capital, by H. C. Fonde and others.

Iuka—Sanitarium Company.—Iuka Mineral Springs & Sanitarium Co. has incorporated with \$15,000 capital; incorporators, T. C. Kimball, C. V. Kimball and J. L. Hoover.

Laurel—Fertilizer Plant.—Laurel Oil & Fertilizer Co. is making extensive improvements to its fertilizer works for doubling the capacity.

Laurel—Cotton Mill.—It is reported that the Laurel Cotton Mills has contracted for 10,000 spindles additional; present equipment 10,400 spindles and 640 looms.

Lexington—Lumber Company.—Incorporated: Hardwood Lumber Co. with \$30,000 capital.

Lexington—Compress and Oil Company.—G. A. Wilson, R. E. Wilburn, M. M. Raynor and others have incorporated the Lexington Compress & Oil Co. with \$60,000 capital.

Macon—Water-works.—City has engaged W. F. and A. D. Wilcox to draw plans for its system of water-works, for which \$25,000 of bonds were recently reported voted.

Mount Olive—Lumber Mill.—Siason Lumber Co., Indianapolis, Ind., has purchased, will improve, enlarge and operate the plant of the Mount Olive Lumber Co. Present capacity is 125,000 feet per day.

New Albany—Clothing Factory.—New Albany Clothing & Manufacturing Co. has incorporated to manufacture clothing of cotton, wool and silk; incorporators, Phil. Falney, Z. M. Stephens, S. R. Knox and others.

Oxford—Oil Mill.—Oxford Oil Mill Co., previously reported to erect 10-ton ice plant, has increased capital to \$100,000.

Scooba—Saw-mill.—D. H. Quandt has purchased the Dozier Saw-mill, with a capacity of 20,000 feet per day, and will increase capacity to 30,000 feet.

Star—Mercantile.—R. G. Berry, H. S. Garrett, J. R. East and others have incorporated the Star Mercantile Co. with \$10,000 capital.

Taylorville—Telephone System.—Smith County Telephone Co. has incorporated with \$30,000 capital.

Vicksburg—Mercantile.—A. G. Russell, K. M. Brough, John G. O'Kelley, C. M. Brough, E. G. Flowers, E. L. Gully and associates have incorporated the A. G. Russell Company with \$150,000 capital.

West Point—Furniture Factory.—Acme Furniture Manufacturing Co. has been incorporated, with \$15,000 capital, by S. A. Vinson, Albert Lucas, Isham Evans, H. S. Denhoff, B. L. Smith and associates, and will

erect plant for the manufacture of furniture, novelties, tables, tanks and silos. Main structure will be of corrugated iron, 100x200 feet, metal or prepared roofing, with necessary building for storage purposes, engine, boiler-room and dry-kiln.\*

West Point—Hardware.—West Point Hardware Co. has been incorporated by J. W. Jameson, Harry Robertson and H. P. Duke; capital \$30,000.

Woodville—Water-works and Electric-light Plant.—City will construct system of water-works and erect electric-light plant, for which bids are asked until June 7. C. N. Jenkins of Fayette, Miss., is the engineer; W. C. Miller, mayor.

Yazoo City—Land Improvement.—F. Howard, P. F. Campbell, H. H. Brickell and associates have incorporated the Mississippi Land & Improvement Co. with \$10,000 capital.

#### MISSOURI.

Carthage—Mining.—McMillan Realty & Mining Co. has incorporated with \$50,000 capital; incorporators, Joseph, John A. and Frank McMillan.

Charleston—Mercantile.—Incorporated: Farmers' Mercantile Co., by Lindsey Brown, Alfred E. Harris, Edward G. Rolwing and others, with \$30,000 capital.

Greenwood—Power-house.—An appropriation of \$50,000 has been made to the Institution for Feeble-Minded for the erection of power-house.

Kansas City—Power-house.—Metropolitan Street Railway Co., B. Corrigan, president, will erect two-story brick power-house with concrete roof, 113x52½ feet; cost \$20,000.

Malden—Live-stock Company.—Incorporated: Machen-Bailey Live-Stock Co., with \$10,000 capital, by Ida Machen, Thomas J. Bailey and Lottie Bailey.

Springfield—Canning Company.—Central Point Canning Co. has been incorporated, with \$3500 capital, by Martin L. Howard, J. W. Barron, E. A. Bussard and others.

St. Louis—Publishing.—James A. Rodgers, Frank L. Buchanan and Emily Rodgers have incorporated the Practical Publishing Co.; capital \$5000.

St. Louis—Wool, Furs, etc.—B. Harris Wool Co. has been incorporated, with \$350,000 capital, by Ben Harris, Marcus Harris, Louis Harris and J. T. Rombauer, to deal in wool, furs and hides.

St. Louis—Mining.—Shoal Creek Land & Mining Co. has been incorporated, with \$10,000 capital, by H. McK. Wilson, A. B. Wilgus, Augustus B. Wilgus and others.

St. Louis—Dairy.—Peter G. Murray, Emma Murray and Alexander Murray have incorporated the Carlyle Dairy Co. to conduct dairy; capital \$10,000.

St. Louis—Chemical Company.—Peroxidant Chemical Co. has been incorporated by Max R. Orthwein, A. W. Saner, Ralph H. Orthwein, Alfred N. Bauer and Hanson J. Marks to deal in chemicals and drugs; capital \$30,000.

#### NORTH CAROLINA.

Asheville—Spoke Factory.—W. F. Randolph, secretary Board of Trade, is corresponding with Berwick (Maine) parties relative to the establishment of spoke factory.

Charlotte—Furniture.—Incorporated: Lawing-Robbins Furniture Co. with \$10,000 capital.

Concord—Gold Mine.—O. J. Thies, representing a Chicago mining company, has purchased from Martin J. Boger 50 acres of gold-mining property near Concord at \$10,000. Machinery will at once be installed for operating the mines extensively.

Creedmore—Contracting Company.—J. F. Sandercock, D. P. Waystaff, R. C. Rogers, I. W. Bullock and others have incorporated the Creedmore Warehouse Co., with an authorized capital of \$25,000, to construct and operate mills and warehouses.

Elizabeth City—Gas and Water-works Supplies.—Thomas P. Wright Company has been incorporated with \$1000 capital to manufacture and deal in gas and water-works supplies by Thomas P. Wright, H. C. Tunis and R. E. Lewis.

Fayetteville—Cotton Mill.—It is reported that the Holt-Williamson Manufacturing Co. will erect an additional building and install more machinery.

Fayetteville—Reports state that the Lafayette Knitting Mills will double capacity.

Gastonia—Cotton Mill.—The Loray Mills will add 25,112 spindles and 840 looms, thus about doubling its present equipment. Its buildings were originally designed for an equipment of 50,224 spindles and 1680 looms, to which increase will now be made; therefore no new buildings will be needed. Company is capitalized at \$1,000,000.

Kings Mountain—Water-power-Electric

**Plant.**—City contemplates establishing electric-light plant and is investigating the water-power at Muddy Fork shoals with a view of developing to transmit electricity. It is estimated about 50 horse-power can be obtained. Address The Mayor.

**Lexington**—Water-works, Electric-light Plant and Street Improvements.—City will vote June 7 on the issuance of \$60,000 of bonds for the construction of water-works, electric-light plants and for street improvements. Address The Mayor.

**Lillesville.**—Lillesville Ginning Co. reported incorporated last week with \$5000 capital, will operate three 70-saw cotton gins.\*

**Lumberton**—Publishing.—Argus Publishing Co. has been incorporated with \$10,000 capital.

**Maxton**—Cotton Gin.—Daniel Wilkinson will erect cotton gin.

**North Wilkesboro**—Water-works and Sewerage.—City will vote May 16 on the issuance of \$32,000 of bonds for construction of water-works and sewerage system. Address The Mayor.

**Raleigh**—Sheet-metal Works.—Lumsden Bros. will erect additional two-story building for their sheet-metal works.

**Raleigh**—Cotton Mill.—Raleigh Cotton Mills has awarded contract to C. P. Snuggs for erection of its addition lately mentioned, the new structure to be 3x40 feet. The company previously announced its intention to build this addition for accommodating extra lapsers, carding machines, etc., all the improvements to cost \$11,000.

**Raleigh**—Railroad Device.—John W. Hood of Hamlet, N. C.; Hugh A. Morson, Jr., and Victor H. Boyden of Raleigh, V. C. Tompkins and W. T. Younger of Salem, Va., have incorporated the Hood Retailer Co. to manufacture an appliance invented by John W. Hood for rerailing cars, engines and trucks. Capital stock is \$20,000, with privilege of increasing to \$50,000.

**Raleigh**—Lumber Manufacturing, etc.—Frederick K. Fish, Jr., Romulus D. Godwin of Raleigh and Alfred S. Morton of Jersey City, N. J., have incorporated the Calumet Lumber Co. with capital stock of \$125,700 to manufacture and deal in lumber.

**Roaring River**—Water-power - Electrical Plant.—Dispatches state that Harper Hayes and Dr. Pegram have purchased Golden waterfalls near Roaring Falls and will develop the water-power, erect an electric plant for transmitting the power to manufacturing industries and locate textile mills. A dam 25 feet high will be constructed, it is stated.

**Salisbury**—Cotton Mill.—Kesler Manufacturing Co.'s building, reported last week, will be one story high, 100x120 feet, and contract for erection has been awarded.

**Spray**—Napping and Finishing.—American Warehouse Co. will install napping and finishing machinery.

**Spray**—Cotton Mill.—Rhode Island Co. will install machinery for working waste and wool.\*

**Waynesville**—Lumber Manufacturing.—Augusta Manufacturing Co. reported incorporated last month with \$25,000 capital, will erect two-story factory building, 40x120 feet, with 40x10 glueroom attached; also will build dry-kiln, 40x100 feet, and storeroom, 40x100 feet.\*

#### SOUTH CAROLINA.

**Anderson**—Glass Factory.—Blue Ridge Beverage & Extract Co. contemplates erecting plant for the manufacture of bottles, drug fixtures, glassware, etc.\*

**Beaufort**—Cotton Mill.—It is reported that Charles Warren Davis of Augusta, Ga., will endeavor to organize company for building cotton mill at Beaufort.

**Beaufort**—Barrel, Crate and Box Factory.—A factory for the manufacture of barrels, crates and boxes is being erected. C. C. Townsend can give information.\*

**Darlington**—Furniture.—Smile Vaughn, Eugene Vaughn and Arthur Erwin have incorporated the Vaughn Furniture Co., with \$1000 capital.

**Gaffney**—Tin Mining.—J. A. Carroll, W. E. Carpenter and M. E. Gettys have incorporated the Carolina Tin & Development Co. with \$25,000 capital to develop tin-mining property near Gaffney.

**Georgetown**—Lumber, etc.—Incorporated: George Easton Company, by George Easton, F. G. M. Smith and T. A. Allen, to conduct general stevedoring business, sell lumber, crossties, etc.

**Greenville**—Cotton Mill.—Woodside Cotton Mills will increase capital stock from \$200,000 to \$400,000 for enlargements. An addition will be erected to contain about 30,000 spindles and looms to suit. Present equipment is 11,280 spindles and 300 looms.

**Greenville**—Cottonseed-oil Mill.—Home Oil Mill, previously reported incorporated with

\$200,000 capital, will erect 36-ton oil mill. Machinery has been ordered.

**Orangeburg**—Bottling Plant.—H. J. Crosswell and J. K. Crosswell of Columbia, S. C., have incorporated the Orangeburg Coco Cola Co. with capital stock of \$5000 to conduct bottling plant.

**Spartanburg**—Mercantile.—Chartered: P. W. Harris Company, with \$20,000. P. W. Harris is president and treasurer.

**Sumter**—Telephone-manufacturing Plant.—Sumter Telephone Manufacturing Co. will double its capital stock of \$50,000 for further enlarging its plant.

**Starr**—Cottonseed-oil Mill.—Chartered: Starr Oil Mill with \$20,000 capital; Incorporators, W. G. Hodges, M. G. Bovil, J. H. Pruitt, J. A. Jones of Starr, Levi N. Geer of Pickens, S. C., and associates. Mr. Geer was previously reported as to erect cottonseed-oil mill.

**Townville**—Cheese Factory.—Company reported several weeks ago as having been organized with J. C. Harris, president, and J. B. Ligon, secretary-treasurer, for the erection of cheese factory has incorporated as the Townville Cheese & Canning Co., and plant will have a capacity of 200 pounds of cheese; will also can fruit, capacity to be 1000 cans. A. W. Singleton is engineer in charge.\*

**West Union**—Cottonseed-oil Mill.—James Pinney of West Union and W. A. Strother of Walhalla, S. C., will erect 20-ton cottonseed-oil mill. A cotton gin will also be operated in connection. Machinery has been purchased.

#### TENNESSEE.

**Athens**—Woolen Mill.—Athens Woolen Mill will increase capital stock from \$75,000 to \$125,000.

**Chattanooga**—Colbert Shoals Canal.—The Sheridan-Kirk Company is preparing to resume the construction of the Colbert Shoals canal, for which it previously received contract. According to the contract the canal is to cost about \$500,000, and 143,000 cubic yards of earth will be removed; 15,000 cubic yards have been removed, but no concrete work has been done.

**Chattanooga**—Bridge.—Robert Hooke, city engineer, has submitted plans and specifications for \$12,000 steel bridge across the railroad tracks at 11th street.

**Chattanooga**—Spoke Factory.—Lien Spoke Works, reported organized last month with \$10,000 capital by H. W. Bagg and associates, has secured site on which to erect plant at cost of \$25,000. Main factory building will be 42x75 feet; boiler and engine house, 16x24 feet; wareroom, 30x100 feet, and office building, 16x30 feet, of frame covered with galvanized iron.

**Crossville**—Coal Mines.—J. N. Baker and associates have acquired several hundred acres of coal lands on Laurel creek; mines have been opened, miners' houses are being erected and shipments will begin as soon as transportation facilities can be secured.

**Huntingdon**—Tobacco Works.—Huntingdon Tobacco Works has made application for charter with J. B. Sanders, president; Allen S. Enson, secretary-treasurer, and Olga Mebane, general manager; capital \$55,000. New buildings are being erected and machinery installed for increasing the output.

**Jellico**—Printing.—Chartered: Advance Printing Co., with \$5000 capital, by R. B. Baird, Z. D. Baird, M. V. Siler, T. W. Baker and A. J. Beever, to publish the Advance Sentinel.

**Knoxville**—Construction Company.—Fenton Construction Co. has been incorporated, with \$10,000 capital, by W. R. Monday, George T. Fenton, A. Y. Davis, Harmon Kries and J. B. Jones.

**Knoxville**—Car Works.—Scott-Oliver Manufacturing Co. is expending \$200,000 in erection of car works, machine shops, etc. Main building will be of steel, 100x400 feet, equipped with electric crane; a 100-ton scale will be constructed in front of warehouse. The floor surface of the entire buildings will be 90,000 square feet. J. B. Stoughton is engineer in charge.

**Knoxville**—Oak-extract Plant.—Southern Oak Extract Co. is erecting two-story addition, 100x175 feet, to its plant at Lonsdale.

**Linwood**—Telephone.—Linwood Telephone Co. has incorporated with \$1000 capital; Incorporators, H. D. Bendale, W. W. Young, J. W. Andrews and others.

**Memphis**—Bakery.—Winkelman Baking Co. will erect two-story brick building, 60x75 feet, at a cost of about \$30,000. Machinery has been contracted for.

**Memphis**—Paint Factory.—True Tag Paint Co. contemplates erecting \$20,000 paint factory.

**Memphis**—Telegraph System.—Western

Union Telegraph Co. will expend \$20,000 in extending its underground system in Memphis; P. G. Kern, local manager.

**Memphis**—Furniture Factory.—The Industrial League is corresponding with Michigan parties relative to the establishment of furniture factory.

**Memphis**—Casket Factory.—Griffith Casket Co. has purchased site on which to erect casket factory.

**Nashville**—Shoe Factory.—Everett, Ridley, Ragan & Co., Atlanta, Ga., state there is no truth whatever in the report mentioned last week that they think of removing their shoe factory from Gainesville, Ga., to Nashville. They do not contemplate any removal.

**Nashville**—Mercantile.—Iser P. David, Aaron Cohen, Milton Stewart and Arthur L. Clark have incorporated as Cohen Bros. with \$55,000 capital.

**Nashville**—Stone Quarry.—Incorporated: Bavarian Lithograph Co., with \$100,000 capital, to engage in quarrying and polishing stone, especially lithograph stone. A. E. Wales of Kansas City, Mo., is president, and W. D. Stuart, Nashville, secretary and general manager.

**Nashville**—Electric Company.—Thomas Deaderick, L. H. Geny, W. W. Page and others have incorporated the Standard Electric Co. with a capital stock of \$15,000.

**Towomy**—Phosphate Plant.—Meridian Fertilizer Factory is installing phosphate plant at a cost of from \$10,000 to \$15,000 to crush and dry rock. Machinery has all been purchased. (Meridian Mining Co. was erroneously reported last week under Centreville, Tenn., as to install \$15,000 fertilizer plant.)

#### TEXAS.

**Amarillo**—Hardware.—Amarillo Hardware Co. has been incorporated, with \$10,000 capital, by H. A. McDonald, I. J. Tolleson and James W. Field.

**Austin**—Power Dam.—It is reported that Robert H. Ingersoll of New York city has made a proposition to the city for rebuilding the Austin power dam, which was demolished by flood several years ago. George H. Flegel, president of the city water commission, and D. W. Doom of the commission have consulted with Mr. Ingersoll regarding the proposition.

**Bardwell**—Cotton Gin.—Incorporated: Bardwell Gin Co., with \$8000 capital, by W. S. Robertson, Bardwell; H. C. McCarter, Forrester, Texas, and W. C. Robertson of Hillsboro, Texas.

**Beaumont**—Piano Factory.—Citizens have subscribed \$10,000 for the establishment of piano factory, previously reported to be erected by C. Janke of Galveston, Texas, and the Janke Piano Co. will be organized with \$50,000 capital for the manufacture of pianos, piano cases and piano furniture. A \$5000 building will be erected at once. C. T. Bunch and W. A. Ward of the Chamber of Commerce promoted the enterprise.

**Beaumont**—Oil Company.—Milton Oil Co. has been incorporated, with \$20,000 capital, to prospect for oil and other minerals by W. F. Brice, U. O. Long and J. M. Smith.

**Beaumont**—Rice Mill.—McFaddin, Weiss & Kyle Rice Milling Co. has let contract to Callahan & Graham at \$55,000 for the construction of proposed rice mill.

**Rockdale**—Creamery.—Ryan & Hanson are forming company with capital of \$6000 for the establishment of creamery.\*

**Temple**—Broom Factory.—Reports state that N. A. Sayre, assistant cashier of Temple National Bank, has received a proposition from a broom manufacturer relative to the establishment of factory, and that a company will be organized for its operation.

**Pecos**—Lumber Manufacturing.—T. B. Prewett, W. Adams and W. Burton of Fort Worth and Arthur Defenback and W. L. Fuller of Barstow, Texas, have incorporated the Prewett Lumber Co., with \$50,000 capital, to manufacture and sell lumber and shingles.

**San Antonio**—Mining.—Musquiz Mining & Exploration Co. has incorporated with \$100,000 capital to mine in Mexico; Incorporators, D. R. Fant, F. G. Gross and H. Brendel.

**San Diego**—Oil Wells.—Company reported last month as organized, with J. D. Cleary, president; C. K. Gravis, secretary, and J. T. Lawson, treasurer, for the development of the Piedras Pintas oil field, has incorporated as the Piedras Pintas Oil Co. with \$8000 capital.

**Sherman**—Mill, Elevator and Warehouse.—Pittman & Harrison Co., reported last week as to erect mill and elevator, will also erect warehouse for transaction of grain and seed business. Main building will be 50x150 feet; elevator, 50x30x40 feet; storage capacity will be 75,000 to 100,000 bushels of corn, clipped oats, etc.\*

**Talpa**—Mercantile.—A. D. Dunn, E. M. Jones and J. M. Wood, all of Coleman, Texas, have incorporated the E. M. Jones Mercantile Co. with \$50,000 capital.

**Dallas**—Lumber Mill.—Incorporated: B. & K. Lumber Co. to manufacture lumber and wood products by W. J. Betterton, Charles L. Betterton and Kearney J. Kivien; capital \$20,000.

**Edinburg**—Mercantile.—Incorporated: Edinburg Mercantile Co. with \$10,000 capital; Incorporators, T. L. Rogers, J. M. Wells, R. D. Hurdy, J. K. Senter, J. C. Benton and W. L. Wedbee.

**El Paso**—Publishing.—Juan S. Hart, James D. Ponder and Joseph R. Eastburn have incorporated the Times Publishing Co. with \$80,000 capital.

**Forreston**—Cotton Gin.—Forrest Gin Co. has been incorporated by William Spurlock and H. C. McCarter of Forreston and W. S. Robertson of Bardwell, Texas; capital \$5000.

**Fort Worth**—Lumber.—Darnell Lumber Corporation has incorporated with \$100,000 capital to manufacture and sell lumber; in Incorporators, S. P. Darnell, F. W. Murphy and J. R. Darnell.

**Gertie**—Telephone System.—Gertie-Webb Telephone Co. has incorporated with \$20,000 capital to construct and operate telephone lines through Johnson, Tarrant, Ellis and Dallas counties; Incorporators, J. H. Miller, R. S. Payne and A. M. Fowler.

**Grand Saline**—Mercantile.—J. C. Mason Company has been incorporated, with \$20,000 capital, by Sam Everett of Grand Saline, J. C. Mason, Dallas, Texas, and M. F. Brockney, Sherman, Texas.

**Houston**—Oil Wells.—Geo. Hamman, John Hamman, Houston, and H. H. Fulton of San Antonio, Texas, have incorporated the Sam Houston Oil Co., with \$25,000 capital, to operate in the Texas oil fields.

**Houston**—Real Estate.—Deep Water Land Co. has been incorporated, with \$80,000 capital, by H. E. Fuller, Hyman Levy, Edgar Watkins, N. L. Mills and W. A. Lewis.

**Houston**—Telephone and Telegraph System.—Incorporated: Phoenix Telegraph & Telephone Co. with \$25,000 capital to construct telephone and telegraph lines throughout Texas; Incorporators, J. M. Smith, Lorenzo Hills and A. L. Hills.

**Marshall**—Grain Company.—Mahone & Henley Grain Co. has incorporated with \$10,000 capital; Incorporators, John N. Mahone, L. H. Henley, M. J. Henley and E. W. Mahone.

**Marshall**—Railroad Shop.—Texas & Pacific Railway Co., previously reported as to erect brass foundry, 40x30 feet, is only erecting temporary building, but is rebuilding and enlarging boiler shop recently burned at a loss of \$30,000.

**Nacogdoches**—Townsite.—Caro Townsite Co. has incorporated with \$30,000 capital; Incorporators, W. Y. Garrison, W. T. Whitman and C. C. Gallaway.

**Palestine**—Land Improvement.—G. E. Dilley, J. B. Heafer, R. E. Lee and J. W. Cunningham have incorporated the Cherokee Land & Improvement Co. with \$10,000 capital.

**Red Oak**—Cotton Gin.—R. F. Kenner, Red Oak, and R. K. Erwinn, Waxahachie, Texas, have incorporated the Kenner Gin Co. with \$5000 capital.

**Rockdale**—Creamery.—Ryan & Hanson are forming company with capital of \$6000 for the establishment of creamery.\*

**Temple**—Broom Factory.—Reports state that N. A. Sayre, assistant cashier of Temple National Bank, has received a proposition from a broom manufacturer relative to the establishment of factory, and that a company will be organized for its operation.

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**Talpa**—Mercantile.—A. D. Dunn, E. M. Jones and J. M. Wood, all of Coleman, Texas, have incorporated the E. M. Jones Mercantile Co. with \$50,000 capital.

Wichita Falls—Mill and Elevator.—Wichita Mill & Elevator Co. has increased capital from \$50,000 to \$100,000.

Wills Point—Mercantile.—Incorporated: J. C. Mason Company, with \$20,000 capital, by G. F. Childress, Wills Point; J. C. Mason, Dallas, Texas, and M. F. Buckney, Sherman, Texas.

#### VIRGINIA.

Barton Heights—Reservoir, Water-works Extension, etc.—City will expend \$10,000 in erection of reservoir, extension of water system and improvements to fire department. Address The Mayor.

Bristol—Furniture Factory.—Bristol Furniture Co. contemplates enlarging plant and increasing output.

Charlottesville—Bark and Sumac Mill.—C. S. Landram of Luray, Va., and Frank Landram are erecting bark and sumac mill.

Chase City—Furniture.—Virginia Furniture Co. will increase capital from \$25,000 to \$40,000.

Clifton Forge—Building Stone.—R. V. Van Horn and J. N. Merriman have leased building and installed machinery to manufacture building stone.

Fort Monroe—Buildings.—The War Department has awarded contract for construction of bachelors' quarters and double officers' quarters to R. H. Richardson & Son of Newport News. C. H. Taylor was awarded contract for plumbing and Harris & Algor for installing heating equipment.

Franklin—Drug Company.—Franklin Drug Co. has incorporated with \$10,000 capital. R. H. Cobb is president.

Gilberts (not a postoffice)—Soapstone Quarries.—Reports state that D. A. Zollner, Charleroi, Pa., and Northern capitalists will form company for the development of soapstone deposits near Gilberts.

Glen Allen—Excelsior Factory.—Old Dominion Excelsior Co. reported organized last week for the manufacture of excelsior, will erect buildings 36x60, 24x48, 15x24 and 15x24. F. Stearns is secretary.

Goshen Bridge—Mining.—Longsdale Iron Co. has acquired the mineral rights on the Leech estate and is installing the latest mining machinery for developing the property.

Lynchburg—Gas Plant.—Home Acetylene Light Co., previously reported incorporated with \$500 capital, has applied for franchise to operate gas plant.

Milford—Excelsior Plant.—W. N. Blatt is rebuilding excelsior plant recently burned: structure to be fireproof, equipped with modern machinery and cost \$10,000.

Newport News.—F. W. Duncan has purchased site on which to erect soap and fertilizer factory.

Newport News—Sewerage Construction.—Chartered: Suburban Sewerage Corporation with \$5000 capital for the construction of sewers. Dr. B. J. Pressy is president.

Norfolk—Lumber Company.—J. E. Etheridge Lumber Co. has been incorporated with an authorized capital of \$50,000. W. T. Santos is president.

Norfolk—Publishing.—Hampton Roads Paper Co. has incorporated with \$25,000 capital. John S. Moss is president.

Norfolk—Tie and Lumber Company.—B. E. Cogbill (president) has incorporated the Perry-Cogbill Tie & Lumber Co. with \$25,000 capital.

Norfolk—Peanut Factory.—Columbian Peanut Co. will erect peanut factory at a cost of \$30,000. This company was previously mentioned as to erect building in Suffolk, but was not able to arrange for site there. J. P. Woodley is manager.

Norfolk—Fertilizer Works.—Virginia-Carolina Chemical Co. will enlarge plant at Pinners Point and equip with machinery from its Charleston (S. C.) factory, increasing the present output, which is 45,000 tons a year, and enabling it to distribute 1000 tons a day. About \$50,000 will be expended in improvements.

Norton—Brick Works.—Silica Brick Co. is erecting plant at a cost of \$15,000.

Pennington Gap—Coal Mines and Coke Ovens.—Black Mountain Coal & Coke Co. is completing railway to facilitate the development of its 20,000 acres of coal land. Mines will be opened and coke ovens erected.

Portsmouth—Shoe Factory.—Chas. Heiser formerly of Baltimore, Md., contemplates establishing shoe factory. Mr. Heiser can be addressed care of the Business Men's Association.

Wytheville—Mineral and Timber Land Developments.—Dispatches state that the Great Southern Coal & Iron Co. of New York city has completed arrangements for beginning extensive developments of a large tract of mineral and timber land in Southwest Vir-

ginia, the tract having been purchased recently. After the land is cleared of timber it is to be sold in tracts to suit for agricultural purposes. John L. Douglas of New York is said to represent the company, and the developments have been undertaken through the efforts of the industrial department of the Norfolk & Western Railroad.

#### WEST VIRGINIA.

Adamston—Water-works.—Monongahela Development Co. has franchise to construct water-works.

Charleston—Glass Works.—Silicon Glass Co. has been incorporated to manufacture and deal in glass, glassware, etc., by J. E. Chilton, W. E. Chilton, R. S. Carr, G. O. Chilton and T. S. Clarke; capital \$100,000.

Charleston—Coal Mines and Coke Ovens.—Panama Coal & Coke Co. has been incorporated, with \$60,000 capital, by Henry B. Wallbridge of New York and associates to mine coal, manufacture coke, etc.

Clendenin—Flour and Feed Mill.—Messrs. Copenhaven & Co. are erecting flour and feed mill; three-story building, 36x50 feet; plant to cost \$50,000.

Fayetteville—Electric Light, Ice Plant and Water-works.—A. W. Hamilton, J. S. Hill, S. L. Walker, W. B. Jones and E. B. Hawkins will organize the Fayetteville Electric Light & Power Co., with \$10,000 capital, for establishment of electric light, ice plant and water-works.

Keyser—Stamping and Enameling Factory.—It is reported that a \$50,000 stamping and enameling factory will be established, and J. H. Markwood, W. T. Walker and W. H. Griffith are interested.

Keyser—Mercantile.—Incorporated: New Creek Store Co., by L. P. Jannison, Westport, Md., and associates; capital \$10,000.

Knottsville—Coal Mines.—Sandy Creek Coal & Coke Co. has been incorporated by C. E. Hutchinson, M. L. Hutchinson, Fairmont, W. Va.; C. A. Short, M. W. Hall and C. L. Hall, Shinnston, W. Va., to operate coal mines. Capital is \$50,000.

Moundsville—Flour Mill and Elevator.—Arch. T. Martin has purchased site, 160x100 feet, on which to erect flour mill, 40x32 feet, with capacity of 85 barrels of flour, and elevator 20x30 feet.\*

Parkersburg—Foundry and Supplies.—Stiles Foundry & Supply Co. has incorporated, with \$25,000 capital, to conduct a general foundry and machine-supply business; incorporators, S. B. Stiles, R. G. Stiles, A. M. Stiles, J. M. Jackson and J. J. McCloskey.

Philippi—Water-works.—Tygart Valley Water Co., reported incorporated last week with \$100,000 capital to construct system of water-works, will construct pumping plant with a daily capacity of 1,000,000 gallons per day and reservoir with a capacity of 1,250,000 gallons of water. Contract has been let and all material bought.

Salem—Oil and Gas Wells.—Invincible Oil & Gas Co. has incorporated with \$25,000 capital to drill for gas and oil; incorporators, G. W. F. Randolph, R. K. Jones, S. E. Statthers, Oscar C. Wilt and M. H. Davis.

St. Albans—Lumber Manufacturing and Coal Mining—Coal River Lumber & Coal Co. has incorporated with \$100,000 capital to manufacture lumber, mine coal, etc.; incorporators, J. B. C. Drew of St. Albans, C. C. Watts, J. C. Ruby and John J. O'Keefe of Charles-ton, W. Va., and Morgan Olcott of New York.

Wheeling—Printing.—Incorporated: Ohio Valley Lithographing Co. to conduct printing, engraving and lithographing business, by John Schumaker and others; capital \$25,000.

Wellsville—Foundry and Machine Shop.—Wellsville Mold & Foundry Co. has incorporated with \$25,000 capital to conduct foundry and machine shop; incorporators, Henry A. Stengle and associates.

Williamson—Street Paving.—Town will pave four streets with brick, and bids will be opened May 19; Leete & Maupin, Huntington, W. Va., engineer in charge.\*

#### INDIAN TERRITORY.

Henryetta—Coal Mines—Chartered: Frisco Coal Co. with \$125,000 capital to develop 18,000 acres of coal land near Henryetta. H. M. Watchorn is president; J. E. Hutchinson, vice-president; James Fitzpatrick, secretary; A. J. Boggs, Sherman, Texas, treasurer, and A. H. Luitwiler, manager.

Tishomingo—Water-works.—Taylor & Moore, Houston, Texas, have contract at \$26,900 for the construction of proposed system of water-works.

#### OKLAHOMA TERRITORY.

Carrill—Milling, Mercantile, etc.—S. E. Carrill, Frank Jett, H. C. Nelson and others

have incorporated the Carrier Mill, Elevator & Mercantile Co.; capital stock \$40,000.

Elk City—Hall.—Dr. W. H. Watson, H. Chadeayne, W. F. Peace and W. E. Davis have incorporated the Odd Fellows' Association, with a capital stock of \$15,000, for building hall.

Enid—Telephone Company.—W. T. Russell, R. H. Smith and H. C. Davis have incorporated the Garland Mutual Telephone Co. with \$1000 capital.

Guthrie—Oil Wells.—Appleton-Osage Oil Co. of Guthrie, Bartlesville, I. T., and Appleton, Wis., has been incorporated, with \$50,000 capital, by E. A. Ross, Appleton, Wis.; E. F. Blaize, Perry, O. T., and P. W. Clark, St. Paul, Minn., to drill for oil.

Guthrie—Coffee Company.—California Fig & Asparagus Coffee Co. of Guthrie and San Francisco, Cal., has been incorporated, with \$200,000 capital, by G. V. Patterson of Guthrie and J. Alexander and J. E. Nicholson of San Francisco, Cal.

Kingfisher—Mining.—Charles E. Sockler, Gross Longdyke, J. C. Hill and Harvey Utterback have incorporated the Kingfisher Mining Co. of Kingfisher and New York city with \$100,000 capital.

Lawton—Mining.—Incorporated: Grub Stake Mining Co., with \$2,000,000 capital, by J. S. Spence, A. X. Campbell of Lawton and A. Beam of Denver, Col.

Meridian—Oil and Gas Company.—Chartered: Meridian Oil & Gas Co., by William Rosegrant, Miles W. Allen, Minor C. Sloan, Harry F. Smith and associates; capital \$500,000.

Pawhuska—Oil Company.—Chartered: Delaware Trust & Oil Co. of Pawhuska and Dewey, I. T., with \$10,000; Incorporators, F. M. Woodson and M. M. Metcalfe of Dewey, I. T., and W. L. Barnum of Ponca City, O. T.

Shawnee—Oil and Gas Wells.—Farmers' Oil & Gas Co. has been incorporated by C. J. Baugh of Shawnee, C. E. Hutchinson of Tonkawa, O. T., and R. H. Fairbanks, Arling-ton, O. T.

Wakita—Coal and Lumber.—J. S. and M. Shelburne, F. F. Wright and J. A. Dubois have incorporated the Wakita Coal & Lumber Co. with \$20,000 capital.

#### BURNED.

Birmingham, Ala.—Birmingham Paint Co.'s mills, loss \$20,000; building owned by Morris Real Estate Co., loss \$20,000; Beatty Bros. machine shop, loss \$5000.

Birmingham, Ala.—Lockwood Manufacturing Co.'s wooden box factory; loss \$25,000.

Joel, Ga.—W. B. McLendon & Bros.' lumber plant.

Madison Station, Ala.—Kelly Glazing Co.'s cotton gin and grist mill; loss \$6000.

Mobile, Ala.—Mobile Veneer Manufacturing Co.'s saw-mill; loss \$15,000.

Petersburg, Va.—Petersburg Carriage Manufacturing Co.'s plant; Bazar stables, owned by J. R. Jones; total loss \$16,000.

Richmond, Va.—Richmond Guano Co.'s plant; loss \$140,000.

Sumter, S. C.—E. S. & George Booth's saw-mill and cotton gin.

#### BUILDING NOTES.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Anderson, N. C.—Store Building.—D. C. Brown & Co. will erect two-story brick store building to be occupied by the Dexter Grocery Co.

Ardmore, I. T.—City Hall.—City has accepted plans for its proposed \$12,000 city hall. Address The Mayor.

Asheville, N. C.—Building.—Coxe estate will erect two-story building, 40x80 feet, on Battery Park Place.

Atlanta, Ga.—Business Building.—H. M. Patterson has purchased site on which to erect building, 40x110 feet, to cost \$20,000.

Atlanta, Ga.—Church.—Bids will be received until May 25 for the erection of the First Baptist Church's proposed edifice. Structure to be 90x130 feet, equipped with electric lights and gas; cost about \$100,000; Charles A. Davis, secretary building committee.

Bamberg, S. C.—Church.—Walter & Edwards, Columbia, S. C., prepared plans for Trinity M. E. Church's \$9000 edifice reported last week, to be equipped with hot air, acetylene gas, etc.; John F. Folk, secretary building committee.

Beaumont, Texas—Hotel.—It is reported that Holmes Duke, B. R. Norvell, E. A.

Fletcher and others will erect five-story brick hotel building on Liberty street.

Belair, Md.—Courthouse Improvements.—Building committee has accepted plans by L. F. Dempwolf, York, Pa., for addition to be erected to Harford county's courthouse, for which \$25,000 is available. Addition will be 24x26 feet, with overlapping angles 8x15 feet, and equipped with steam or hot-water heating apparatus, electric lights, etc.

Birmingham, Ala.—Building.—George P. Harrison, Opelika, Ala., will erect four-story brick building, 55x100 feet, equipped with electric elevators, to cost \$20,000, to replace structure reported burned last week.\*

Booneville, Miss.—Courthouse and Jail.—Board of supervisors of Prentiss county has adopted plans by Andrew J. Bryan & Co., New Orleans, La., for proposed \$25,000 courthouse and \$8000 jail.

Carrollton, Ga.—Church.—Butt & Morris, Atlanta, Ga., have prepared plans for edifice to be erected by Methodist Episcopal Church, and W. E. Clinton, Gainesville, Ga., will superintend construction: structure to be 48x72½ feet, of brick, with slate roof, electric lights, to cost \$12,000; C. H. Stewart, chairman building committee.

Charleston, S. C.—Home.—Church Home of the Protestant Episcopal Church has had plan and specifications prepared by Shand & Lafaye, Columbia, S. C., for the erection of additional building: Rev. Robert Wilson, chairman.

Chattanooga, Tenn.—Office Building.—C. E. James has purchased site and had plans prepared for the erection of \$10,000 office building.

Chattanooga, Tenn.—Residence.—Sam R. Read has had plans prepared by W. T. Downing for the erection of \$50,000 residence.

Chattanooga, Tenn.—Dwelling.—Adams & Schneider have contract to erect \$15,000 residence for W. H. Trotter after plans by W. T. Downing; structure to be two stories of brick.

Chattanooga, Tenn.—School.—City has let contract to T. S. Moody at \$30,497 for the erection of proposed school building after plans by R. H. Hunt.

Clay, W. Va.—Bank Building.—John T. Galmer, cashier Clay County Bank, will open bids May 16 for the construction of bank building in accordance with plans and specifications on file at office of H. Rus Warne, architect, Bradford Building, Charleston, W. Va. Usual rights reserved.

Columbus, Miss.—Music Building.—Trustees of the Industrial Institute and College have accepted plans for proposed Music Hall, for which the legislature has appropriated \$40,000; structure to be four stories, of white-pressed brick and stone, 100x110 feet, with a seating capacity of 600.

Columbus, Ga.—Store and Office Building.—C. E. Young Company has contract to erect store and office building for Mrs. H. S. Barfield after plans by T. W. Smith & Co.; structure to be 60x90 feet, of brick, with plate-glass front, gravel roofing, and cost \$8000.

Cuthbert, Ga.—Jail.—County commissioners have accepted plans for Randolph county's proposed \$15,000 jail, and bids for construction will be asked at once.

Dallas, Texas—Business Building.—W. J. Allen, 488 Ross avenue, has had plans prepared by C. A. Gill & Son for the erection of building reported last week; structure to be two stories, 25x85 feet, non-fireproof, heated by stoves, brick flues, equipped with electric lights, to cost \$4000.

Dawson, Ga.—Residence.—W. E. Riordan is erecting residence at a cost of \$10,000.

Dublin, Ga.—Jail and Jailer's Residence.—County commissioners of Laurens county are having plans prepared by J. W. Dillon for the erection of jail and jailer's residence.

Fairmont, W. Va.—Office Building.—Fairmont Coal Co. will erect office building.

Greensboro, N. C.—Dwelling.—A. V. Sapp has let contract to W. L. Montgomery for the erection of \$6000 residence.

Greenville, Miss.—School Buildings.—City will vote June 8 on the issuance of \$30,000 of bonds for the erection of two school buildings. Address The Mayor.

Grenada, Miss.—Jail.—Board of supervisors has let contract to Dobson & Bynum, Montgomery, Ala., at \$12,400 for the erection of Grenada county's proposed jail, to include steel cages, heating plant and electric wiring; structure to be two stories, fireproof, 32x40 feet.

Grenada, Miss.—Church.—Building committee of the Presbyterian Church has accepted plans by L. M. Weathers, Memphis, Tenn.,

for proposed \$10,000 edifice; structure to be 60x90 feet, with a seating capacity of 625.

Henderson, Ky.—Bank and Office Building.—Ohio Valley Banking & Trust Co. has let contract for the erection of \$40,000 bank and office building.

Henderson, Ky.—Bank Building.—W. O. Rash and others have let contract for erection of bank building to cost \$15,000.

Hendersonville, N. C.—Courthouse.—Sealed proposals will be received by K. G. Morris, clerk of board of county commissioners of Henderson county, for erecting and furnishing courthouse complete. Plans and specifications can be seen at office of R. S. Smith, architect, Asheville, N. C. Certified check for \$500 must accompany each bid. Usual rights reserved.

Hidenlite, N. C.—Hotel.—W. J. & R. L. Davis will erect 36-room hotel at White Sulphur Springs at cost of \$3000; structure to be of frame, with shingle roof; porches to be covered with galvanized sheet iron. Electric plant may be installed later.\*

Huntington, W. Va.—Depot.—Chesapeake & Ohio Railway Co. does not contemplate erecting union depot reported last week; G. W. Stevens, Richmond, Va., president.

Jellico, Tenn.—Hotel.—Morgan Humphrey contemplates erecting three-story brick hotel.

Jonesville, S. C.—School.—Sams & Carter, Columbia, S. C., have contract to erect school building for which \$6000 in bonds was recently issued.

Knoxville, Tenn.—Apartment-house.—Barber & Klutts are preparing plans for three-story brick and stone apartment-house to be erected at a cost of \$25,000 on West Clinch avenue.

Lake Charles, La.—Bank Building.—Calcasieu National Bank, H. C. Drew, president, has let contract to Hoggan Bros., New York, to remodel and refurnish bank building at a cost of about \$25,000.

Latta, S. C.—Dwelling.—James H. Manning, president Bank of Latta, Latta, S. C., is erecting \$7500 residence, and not \$25,000, as reported last week.

Lexington, Ky.—Hotel.—Southern Mutual Investment Co. states there is no truth in the report mentioned last week that it will erect hotel.

Lexington, Ky.—Church.—Upper Street Baptist Church contemplates erecting new edifice. Address The Pastor.

Louisville, Ky.—Depot.—Louisville & Interurban Railway Co., T. J. Minary, president, has purchased site at \$57,300 on which to erect \$100,000 suburban and interurban car depot.

Louisville, Ky.—Infirmary.—Clark & Loomis are preparing plans for infirmary to be erected at Confederate Home.

Lyons, Ga.—Hotel.—G. W. Hale & Son have contract to erect two-story brick hotel building to replace one recently burned.

McColl, S. C.—School.—City contemplates erecting \$10,000 school building. Address The Mayor.

Memphis, Tenn.—Lodge Building.—Local Lodge, B. P. O. E., will erect three-story lodge building, 65x75 feet, at a cost of \$25,000.

Memphis, Tenn.—Railroad Shops.—Illinois Central Railroad Co. reported last week as to expend \$300,000 in improvements, will erect blacksmith shop and boiler shop, 80x220 feet; machine shop, 110x120 feet, and duplicate their present locomotive repair plant. A. S. Baldwin, chief engineer, has the work in charge.

Memphis, Tenn.—Church.—Trinity Baptist Church is having plans prepared for the erection of \$20,000 edifice of brick and stone. Dr. Sherman is pastor.

Memphis, Tenn.—Apartment-house.—Sam'l. Hobson has let contract to L. T. Lindsey for the erection of apartment-house, 50x120 feet, of St. Louis buff brick and stone, to cost \$20,000. Plans by Chighizola & Hanner.

Memphis, Tenn.—Business Block.—Napoleon Hill has let contract to Anderson & Richartz for the erection of proposed \$50,000 business block after plans by Chighizola & Hanner.

Memphis, Tenn.—Store Building.—A. Mafel is erecting two-story brick store building, 23x36 feet.

Memphis, Tenn.—Residence.—Allen & Abel Company has contract to erect I. Mendel's proposed \$20,000 residence; to be two stories, of stone and veneer, Chighizola & Hanner prepared the plans.

Monte Ne (P. O., Vinda), Ark.—Clubhouse, Cottages, etc.—Clubhouse, Hotel & Cottage Co., previously reported incorporated, etc., has accepted plans by Matthews & Clarke of St. Louis, Mo., for the erection of clubhouse and four cottage rows.

Nacogdoches, Texas—School.—School trus-

tees have awarded contract to J. M. Innes, Greenville, Texas., at \$20,898 for the erection of proposed school building.

Nashville, Tenn.—Dwelling.—M. W. Dillon is having plans prepared for the erection of \$15,000 residence.

Nashville, Tenn.—Residence.—Mrs. I. F. Neal will erect two-story brick residence, to cost \$6000.

Nashville, Tenn.—Hotel.—M. T. Mallon will erect two-story brick hotel to cost \$4000.

Nashville, Tenn.—Building.—Mrs. Christi-

anne C. Leckhardt will erect two-story brick building, 100x80 feet.

Nashville, Tenn.—Residences.—Wiles & Karsch have permit to erect three brick residences to cost \$15,000.

Natchitoches, La.—Clubhouse.—Prentiss Club has let contract for the erection of two-story pressed-brick clubhouse to cost \$25,000.

Natchitoches, La.—Postoffice.—James Knox Taylor, supervising architect, Treasury Department, Washington, D. C., will open bids June 20 for construction of United States postoffice at Natchitoches in accordance with plans and specifications, copies of which may be had at office of supervising architect, or at the office of the postmaster at Natchitoches, at the discretion of the supervising architect.

Nettleton, Miss.—Bank Building.—A new bank, organized with C. A. Roberts, cashier, will erect brick bank building.

New Augusta, Miss.—Courthouse.—Plans and specifications of Contractor Hull, Jackson, Miss., have been accepted for Perry County's courthouse, for which \$25,000 of bonds will be issued. Address County Clerk.

New Orleans, La.—Hotel.—Young Men's Gymnastic Club, William H. Heyl, secretary, contemplates erecting hotel.

New Orleans, La.—Theater.—David H. Barnes, Kansas City, Mo., has contract to remodel at a cost of \$50,000 the Bijou Theater previously reported.

New Orleans, La.—School.—McDonogh school commissioners, Paul Capdeville, president, comptroller's office, city Hall, will open bids May 24 for erecting schoolhouse in accordance with plans and specifications on file at office of Andry & Bender Nagel, architects, Room 708, Tulane-Newcomb Building, 211 Camp street. Usual rights reserved.

Norfolk, Va.—Car Barns, Sheds, etc.—Chesapeake Transit Co. has increased capital from \$1,000,000 to \$1,500,000 and will erect car barns, sheds, freight station and make other improvements.

North Wilkesboro, N. C.—Buildings.—F. D. Forester & Co. will erect two-story building, 25x100 feet; Virgil & Foster will erect two-story brick store building, 25x100 feet; W. F. Traylor will build block of brick buildings.

Ozark, Ark.—Courthouse.—J. T. Greer, commissioner of Franklin county, will open bids May 30 for the erection of courthouse. Plans and specifications on file at office of Frank W. Gibb, architect, 24 Reider Building, Little Rock, Ark., and at office of county clerk of Franklin county. Certified check for \$500 made payable to J. M. Wells, county judge, must accompany each bid. Usual rights reserved.

Palatka, Fla.—Fire Station.—City contemplates erecting central fire station at a cost of about \$5000. Address The Mayor.

Pascagoula, Miss.—School.—City contemplates issuing \$25,000 of bonds for the erection and furnishing of school building. Address The Mayor.

Pickens, S. C.—School.—City has voted the issuance of \$10,000 of bonds for erection of school building. Address The Mayor.

Plaquemine, La.—Charles Roth, New Orleans, La., states there is no truth in the report that he is interested in the organization of \$20,000 stock company to erect theater, as reported last week.

Richmond, Va.—Engine and Truck House.—Henry J. Blauvelt, 2 North 11th street, has prepared plans for the engine and truck house to be erected on West Broad street by the city. Address The Mayor.

Richmond, Va.—Theater.—Amalgamated Theatrical Association of New York has let contract to Rooney & Atkinson for the erection of proposed Bijou Theater; structure to be three stories, 68x135 feet, equipped with electric lights, electric fans, etc.

Ridgely, Md.—Water-works.—Town contemplates establishing system of water-works at a cost of \$15,000; Charles E. Stevens, clerk.\*

Roanoke, Va.—School Buildings.—City will issue \$25,000 of bonds for the erection of additional school buildings. Address The Mayor.

Salisbury, N. C.—Postoffice.—The government has awarded contract to T. P. Johnston & Co. for the erection of proposed three-story postoffice building.

Savannah, Ga.—Theater.—Sydney Wells will expend more than \$5000 to improve the Savannah Theater, including the installation of a heating system.

Selma, Ala.—Store and Office Building.—Ballard Manufacturing Co. has contract to erect Baumgartner Building; structure to be three stories, of stone and brick, and cost about \$20,000.

Spartanburg, S. C.—Church.—The congregation of Central Methodist Church will remodel the building throughout, expending about \$4000.

Spray, N. C.—Office Building.—American Warehouse Co. contemplates erecting office building.

St. Louis, Mo.—Church.—Third Baptist Church has let contract for the erection of edifice to cost \$67,000, with a seating capacity of 2300; W. J. Williamson, pastor.

St. Louis, Mo.—Automobile Warehouse.—John P. Herrmann has let contract to the Jean Jameton Construction Co. for the erection of carriage and automobile warehouse, 50x130 feet, fireproof, equipped with a 9x12-foot elevator, and to cost \$35,000.

St. Louis, Mo.—Store Building.—W. M. Sutherland & Co. have contract to erect six-story store and warehouse building for the Thiebes-Sterlin Music Co. at 1600 Olive street; structure to be 31x109 feet, and cost \$60,000.

Thomasville, N. C.—Store Building.—J. M. Morris & Son will erect brick store building.

Thomasville, N. C.—Business Building.—T. J. Finch & Bro. are having plans prepared by C. F. Finch for the erection of two-story brick building, 70x100 feet, equipped with electric lights, to cost \$5000.\*

Union, S. C.—Library Building.—M. Young, mayor, will open bids May 26 for the erection of Carnegie Free Library building.

Washington, D. C.—Association Building.—Frank L. Hanvey is lowest bidder at \$219,000, and will be awarded contract for the erection of Y. M. C. A. building previously reported to be built at a cost of \$300,000.

Washington, D. C.—Bank Building.—American National Bank has purchased the Baltimore Sun Building on F street, which will be remodeled as bank building.

Wheeling, W. Va.—Store Building.—Henry Hoffman is erecting three-story brick building, 25x100 feet.

Winona, Miss.—Courthouse.—Montgomery county contemplates erecting \$50,000 courthouse. Address County Clerk.

## RAILROAD CONSTRUCTION.

### Railways.

Anderson, S. C.—The Carolina Development Co., which is to have charge of building the electric railway from Anderson to Greenville, has elected officers as follows: Dr. George E. Coughlin, president; R. S. Ligon, vice-president; J. A. Brock, secretary and treasurer; directors, F. G. Brown, J. A. Brock and R. S. Ligon, Anderson; H. J. Haynesworth, Greenville; Capt. E. A. Smyth, Pelzer; Frank M. Fauvre, S. S. Rhodes and Dr. George E. Coughlin, Indianapolis, Ind., and D. M. Stewart, Xenia, Ohio.

Atlanta, Ga.—The Atlanta Chamber of Commerce has approved the plan for an extension of the Western & Atlantic Railroad, which is owned by the State, to tidewater. The road is operated by the Nashville, Chattanooga & St. Louis Railway, the chief engineer of which is Hunter McDonald, with office at Nashville, Tenn.

Augusta, Ga.—The Augusta & Elberton Railroad Co. has organized by electing officers as follows: President, C. B. Young, Augusta; vice-president, J. E. Hogan, Augusta; secretary and treasurer, F. T. Lockhart, Augusta; board of directors, John Zellars, Lincolnton; W. C. Powell, Pansy; A. W. Smith, Appling, and Messrs. F. T. Lockhart, C. B. Young, J. E. Hogan and W. C. Wardlaw, Augusta. It is expected to begin construction by June 1 and to complete 20 miles by December 1 next.

Beaumont, Texas.—Mr. Ed Kennedy writes the Manufacturers' Record that the proposed railroad from Spring to Batson will be 45 miles long. W. A. Stockwe is engineer and is now running the line. The grading contracts will be let in five-mile sections. Profile can be seen in engineer's office at Gushee, Hardin county, Texas.

Blackstone, Va.—It is reported that on petition of L. E. Watson, contractor, A. B. Dickinson of Richmond and Benham Morris of Blackstone, Va., have been appointed receivers for the Blackstone & Southern Railroad.

Bloomfield, Mo.—Mr. Griff Glover, president of the North Arkansas Railroad & Power Co. of Mount Hersey, Newton county,

Arkansas, recently chartered, and also secretary, treasurer and general manager of the Chouteau Land & Lumber Co. of Bloomfield, Mo., writes the Manufacturers' Record that parties interested in timber and mineral properties along the Buffalo river propose building the road primarily for the purpose of reaching their land holdings.

Bristol, Tenn.—The Holston Valley Railway Co. informs the Manufacturers' Record concerning a recent press report that the extension mentioned is a logging road of a temporary character, which will not be used for passenger and freight service.

Bunkie, La.—Reported that the survey is progressing for the proposed Louisiana East & West Railroad, which will run from Bunkie via Eola to Villeplatte, about 35 or 40 miles.

Charleston, W. Va.—Reported that the Coal River & Western Railway will complete its 18 miles up Coal river to Fork creek by the middle of May, and that contracts for the rest of the line have been let. C. K. McDermott is general superintendent.

Crossville, Tenn.—Reported that James W. Cooper of Cooper & Hamby, attorneys, and others are interested in a plan to build a railroad from some point on the Tennessee Central Railroad, probably Monterey, to Monticello, Ky., and thence to Burnside or Somerset.

Eagle Lake, Texas.—Reported that W. T. Eldridge of Eagle Lake and John W. Gates of Chicago will build a railroad from San Antonio to Velasco, Texas, about 200 miles.

Fort Worth, Texas.—It is rumored that the Fort Worth & Denver City Railway Co. is considering a plan to build an extension southward to the Gulf of Mexico, about 300 miles. E. H. Jones is assistant engineer.

Galveston, Texas.—Mr. C. F. W. Felt, chief engineer Gulf, Colorado & Santa Fe Railway, writes the Manufacturers' Record that as far as he knows no extension is contemplated from Bay City to Alvin.

Guthrie, Okla.—The Denver, Woodward & Southeastern Railway Co. has been chartered to build a railroad from Denver, Colo., southeast through Oklahoma and Indian Territory to Texarkana, Ark., about 100 miles.

Guthrie, Okla.—The Guthrie, Fairview & Western Railway Co. has organized by electing W. S. McCaul of Joliet, Ill., as president and treasurer; E. H. Shauer of Kansas City, first vice-president; Horace Speed of Guthrie, second vice-president; J. H. Trimble of Kansas City, chairman of the board; L. Underwood of Kansas City, secretary. Reported that engineers are surveying on the proposed line from Fairview to Guthrie.

High Point, N. C.—Reported that A. L. Garrell of Maine has made an investigation of the route for the proposed electric railway to connect High Point, Greensboro and Winston.

Hoschton, Ga.—A charter has been granted for the Atlanta & Carolina Railway, in which J. R. and A. C. Hosch and others are interested.

Hoxie, Ark.—The Hoxie, Strawberry River & Western Railroad Co. has been chartered to build a line from Hoxie to Franklin, Ark., 50 miles. The directors are J. H. Stump, R. S. Thomas, O. V. Rosenberg, L. T. Andrews and W. A. Chapman.

Jackson, Ky.—Reported that grading has begun on the proposed railroad from Cannel City to West Liberty, Ky., connecting with the Ohio & Kentucky Railroad. C. A. Smith and others are reported interested.

Lake Charles, La.—Mr. Henry B. Kane, vice-president and general manager of the St. Louis, Watkins & Gulf Railway, is reported as saying that the company will build a new station for freight and passenger traffic as well as downtown terminals.

Lebanon, Ky.—Mr. W. K. Azbill writes the Manufacturers' Record that the name of the new electric railway is the Columbia & Lebanon Interurban Railway Co., with headquarters at Lebanon. The officers are W. K. Azbill, president; R. N. Wathen, vice-president; J. M. Knott, treasurer, and T. M. Estes, secretary. The points to be connected are Lebanon, Bradfordsville, Mannsville, Ackerton, Elkhorn, Kelleyville, Caney Valley and Columbia, the first and last places named being terminals. The line will be 48 miles long altogether. H. von Hippel, chief engineer of the Tennis Company of Cincinnati, Ohio, made the survey and estimate. The company hopes to soon be in the market for material.

Logtown, Miss.—Reported that the H. Weston Lumber Co. will extend its line a few miles to connect with the New Orleans & Northwestern Railroad.

Lufkin, Texas.—Mr. R. W. Miller, vice-president of the Eastern Texas Railroad, refer-

ring to a recent press telegram, writes the Manufacturers' Record that the company is not at present contemplating the building of the extension from Kennard to Crockett.

McBee, S. C.—The Lynch's River Tramway Co. has been granted a charter to build a line from McBee into Kershaw county. J. H. Diggs is president and W. H. Webster is secretary and treasurer.

Mobile, Ala.—Reported that the Mobile, Jackson & Kansas City Railroad Co. has begun the work of converting the Chicago & Gulf Railroad from a narrow to a standard gauge line.

Montgomery, Ala.—The Alabama Central Railway Co. informs the Manufacturers' Record that it has completed nine miles of grade between Booth Station, on the Mobile & Ohio Railroad, and Autaugaville, Ala. Tracklaying is to begin in 10 days. The company is doing all work under the supervision of M. C. Stokes, general manager and secretary, and W. H. Garrett, engineer. Charles H. Scott is president of the company and Gaston Scott vice-president and treasurer.

Nashville, Tenn.—Philip Brady of Nashville is reported to have been awarded the contract for grading the proposed Nashville, McMinnville & Woodbury Railway. Work will start at Woodbury and be pushed both ways. The line will be about 70 miles long. C. M. Henley of Columbus, Ohio, is president, and Joseph Ellis and J. M. Gant are also interested.

Nashville, Tenn.—Reported that the Nashville, Chattanooga & St. Louis Railway is considering plans to build a branch from South Pittsburg, Tenn., up Sweeten's Cove. Hunter McDonald is chief engineer.

New Orleans, La.—Mr. Jules Godchaux, general manager of the Franklin & Abbeville Railway, writes the Manufacturers' Record that the company has not yet determined regarding the proposed extension to Royville. The rights of way have been secured, but construction will not begin for awhile.

Norfolk, Va.—The stockholders of the Chesapeake Transit Co. have approved an increase of \$500,000 in its capital stock, making the total \$1,500,000. It is reported that improvements will be made. M. K. King is general manager.

Oklahoma City, O. T.—The Missouri, Kansas & Oklahoma Railroad has filed an amendment to its charter providing for an extension southwest from Oklahoma City through Oklahoma, Canadian, Caddo, Kiowa and Comanche or Greer counties to a point on the Texas boundary, 150 miles. It also provides for the purchase of a projected Osage railroad. F. N. Finney is president.

Opelousas, La.—The Opelousas, Gulf & Northeastern Railroad Co. has been organized to build a line from Opelousas northeast, crossing the Texas & Pacific Railway and connecting with some other line and lines running southward parallel with the Mississippi river to navigable water; also for an extension southwest to deep water at or near the Gulf, intersecting the Louisiana Railway at either Rayne, Troy or Jennings. A charter was adopted and officers were elected as follows: President, Thomas H. Lewis; vice-president, E. P. Veazie; treasurer, J. J. Thompson; secretary, George Edwards; directors, E. M. Boagni, E. P. Veazie, M. Halphen, M. Vilaseca, J. J. Thompson, J. P. Salzman, Isaac Roos, J. B. Sandoz, Thomas H. Lewis, F. J. Deitlein, H. E. Estorge, R. Lee Garland, E. D. Estlette, Charles F. Boagni, Joseph M. Boagni, B. H. Pavay and Oscar Dardeau.

Paducah, Ky.—The Caney & West Liberty Railroad Co. has been incorporated to build a line from Cannel City, in Morgan county, through Caney to West Liberty, eight miles, connecting with the Morehead & West Liberty Railroad. The incorporators are W. M. Read, A. G. Owsley, C. M. Martin, W. B. Smith and W. B. Kennedy, all of Paducah.

Perla, Ark.—The Perla Northern Railroad Co. has been chartered to build a line from Perla, in Hot Springs county, to Whittington, in Garland county, 23 miles. The directors are A. Strauss, R. W. Griswold, C. L. Brant, E. N. Strauss and C. A. Fligley.

Roanoke, Va.—The Engineering Company of America, C. W. Wheelock, general manager, of New York, is reported to have made a survey for the proposed Catawba Valley Railway. The route is from Roanoke via Hanging Rock, Mason's Creek, Mason's Cove, Beckner's Gap, Catawba Mountain, McAfee's Gap and along Craig's creek to New Castle, a distance of 28 miles.

Roanoke, Va.—The Norfolk & Western Railway has taken steps to condemn land at Lambert's Point, Va., to provide room for improving its terminal tracks. C. S. Churchill is chief engineer.

Rushton, La.—John A. Knox, chief engi-

neer of the Arkansas Southern Railroad, is reported as saying that the location survey is completed for nine miles of the proposed extension from Winfield, La., to Alexandria, La., 45 miles. The Kinsar Construction Co. of Parsons, Kan., has the contract, work to begin immediately.

San Antonio, Texas.—According to a rumor the San Antonio & Aransas Pass Railway Co. is contemplating an extension from Lockhart to Austin; also that the Kerrville line may be extended via San Angelo to connect with the Texas & Pacific Railway. M. D. Monserrate is vice-president and general manager.

Shreveport, La.—The Louisiana Railway & Navigation Co. (formerly Shreveport & Red River Valley Railway) has not, it is understood, completed plans for its projected terminal improvements, including elevators and wharves, at Willow Grove Landing, near New Orleans. W. E. Hawley is chief engineer.

St. Louis, Mo.—The Missouri, Kansas & Texas Railway is reported to have completed the Krebs Branch to Wilburton, I. T.

Temple, Texas.—The Belton & Temple Traction Co. has been chartered. This is the company that is building the electric railway connecting the two towns. The directors are Calvin Greene, W. C. Davies, J. C. Houser, A. C. Mayes of Lewiston, Pa.; Samuel Watts of Belleville, Pa.; W. H. Taylor, J. A. McDonald of Reedsville, Pa.; L. F. Treaster, W. R. Barefoot of Milroy, Pa.; H. E. Aherns of Reading, Pa.; A. M. Brown of Tyrone, Pa.; A. F. Bentley of Temple and N. K. Smith of Belton. The officers are Samuel Watts, president; A. F. Bentley, first vice-president; A. C. Mayes, second vice-president; W. H. Taylor, third vice-president; Calvin Greene, treasurer, and J. C. Houser, secretary.

Washington, D. C.—The Southern Railway is reported to have begun construction on a new union passenger terminal at Mobile, Ala. Wheeling, W. Va.—The Panhandle Traction Co. is reported to be pushing work on plans to build an electric railway between Wellsburg and Steubenville. Howard Hazlett is president.

#### Street Railways.

Roanoke, Va.—Reported that the Roanoke Railway & Electric Co. will make some more extensive improvements.

#### MACHINERY, PROPOSALS AND SUPPLIES WANTED.

**Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.**

Barrel and Box Machinery.—C. C. Townsend, Beaufort, S. C., wants addresses of manufacturers of machinery for making slack barrels, crates and boxes.

Boiler.—See "Woodworking-factory Equipment."

Building Equipment and Supplies.—Henderson & Co., Limited, 218 West Fayette street, Baltimore, Md., want subbids on the following building materials for the Daniel Miller building on which they are bidding: Brick, stone, terra-cotta, structural iron and steel work, metal work, metal window frames and sashes, rolling shutters, millwork, hardware, reinforced concrete work, painting and glazing, wireglass, prismatic glass, fireproofing material.

Building Material.—Lake Charles Colored Land Improvement & Industrial Co., Lake Charles, La., wants doors, windows, sash, blinds and all kinds of building material.

Building Materials.—J. T. Finch & Bro., Thomasville, N. C., want prices on plate glass for front, tinfoil for roof, lime and cement.

Building Materials.—W. J. & R. L. Davis, Hiddenite, N. C., want 80 windows, 8 L. 12x16, and about 50 doors, 2-6"x6"-6 to 3x7.

Building Materials.—Cox Wholesale Grocery Co., Mena, Ark., wants prices on building materials.

Building Materials.—See "Electrical Equipment."

Building Materials.—Acme Manufacturing Co., West Point, Miss., wants building materials. Address H. S. Dodenhoff.

Building Materials.—John W. Pope, 1545 Myrtle avenue, Baltimore, Md., wants catalogues of structural iron for building purposes.

Building Materials.—See "Glass Plant."

Building Materials.—J. S. Starr, Rock Hill, S. C., wants prices on pressed brick, stone, iron columns, gravel and slate roofing.

Building Materials.—The Woodruff-McLaughlin Company, constructing engineers and architects, 100 East Lexington street, Baltimore, Md., are in the market for metal window frames and sashes, wireglass, fire shutters, mill window frames and sashes, glass.

Bridge Construction.—William H. Brown, chief engineer, Philadelphia, Baltimore & Washington Railroad Co., Broad Street Station, Philadelphia, Pa., will open bids May 16 for furnishing all labor and materials to complete the masonry piers of the Havre de Grace (Md.) bridge, in accordance with plans and specifications on file at engineer's office. Only those who have had experience in building deep-water foundations need apply.

Canning-factory Equipment.—Crider Cannery Co., Crider, Ky., wants cans, boxes, labels, etc.

Concrete Mixer.—Fogle Bros., Winston-Salem, N. C., want a portable concrete mixer.

Cotton-gin Equipment.—Lillesville Ginning Co., Lillesville, N. C., wants prices on gins, press, 40-horse-power engine and 50-horse-power boiler.

Creamery Equipment.—Ryan & Hanson, Rockdale, Texas, want complete equipment for creamery.

Derrick Fittings.—J. D. Mallory & Co., 410-428 Cross street, Baltimore, Md., want catalogues and price-lists on derrick fittings.

Distilling Apparatus.—MacKethan & Co., Fayetteville, N. C., want a still to refine crude spirits of turpentine, giving a water-white product; want still that will separate with the least possible loss.

Drainage Channels, etc.—Sealed proposals will be received until July 7 by sewerage and water board, New Orleans, La., Geo. G. Earl, general superintendent, for construction of approximately 36,000 feet of drainage channels, consisting variously of open wood-lined channels, of covered concrete channels and of vitrified pipe drains. Specifications and general plans may be obtained at office of board, Room 20, City Hall. Bids will also be received at same place and date for construction of foundations for two superstructures for five sewage-pumping stations. Plans, specifications and blank forms of proposals may be obtained after May 23 at office of board, 602 Carondelet street. Usual rights reserved.

Electric Motor.—See "Power Plant."

Electric-Light Plant.—See "Water-works."

Electrical Equipment.—International Railway Signal Co., Winston-Salem, N. C., wants electrical equipment, building materials, bolts and engine.

Elevator Buckets.—Rinn & Davis, 415 East Lexington street, Baltimore, Md., want prices on malleable-iron elevator buckets.

Elevators.—George P. Harrison, Opelika, Ala., wants bids on electric elevators.

Engine.—See "Flour-mill Equipment."

Engine.—Townville Cheese and Canning Factory, Townville, S. C., wants small engine.

Engine.—Independent Manufacturing Co., Castle, N. C., wants prices on 75 to 80 horse-power engine.

Engine.—See "Water-works Equipment."

Engines.—See "Power Plant."

Engine and Boiler.—See "Mining Equipment."

Engine and Boiler.—See "Electrical Equipment."

Engine and Boiler.—See "Cotton-gin Equipment."

Excelsior Machine.—Oates Mattress Co., Little Rock, Ark., wants a rotary cutting excelsior machine.

Fire-department Equipment.—Town of Tolsoot (P. O., Elm City), N. C., wants to purchase a hand fire engine and hook-and-ladder truck. Address Theo. B. Winstead, Clerk, Elm City, N. C.

Flour-mill Equipment.—Arch. T. Martin, Moundsville, W. Va., wants prices on 60-horse-power engine and five-stand 9x18 Allis rolls.

Furniture.—H. Fortune, Durmid, Va., wants about 25 bedroom suits; also about 25 iron beds.

Gas Plant.—John T. Folk, Bamberg, S. C., wants prices on acetylene-gas plant, art-glass outfit, tin shingles, etc.

Glass-factory Equipment.—Blue Ridge Beverage & Extract Co., Anderson, S. C., wants prices and full information on complete equipment for glass factory.

Laundry Machinery.—Porter & Morely, Norton, Va., want machinery for steam laundry.

Machine-tool Manufacturers.—W. A. Nunally, Richmond, Va., wants to correspond with manufacturers of machine tools relative to arranging for the production of a quartering level for locomotive driving wheels. He has patented the device.

Machine Tools.—United Iron Works Co., Springfield, Mo., wants one good second-hand shear, capacity 6x1-inch iron.

Metal Window Frames and Sashes.—See "Building Materials."

Mining Equipment.—Morris Mining Co., J. H. Morris, president, Morrisville, Ala., wants one 60-horse-power boiler, one 80-horse-power boiler, one 50-horse-power engine, one 8-inch discharge pump, 2300 feet 8-inch pipe.

Oil-mill Machinery.—Hertford Cotton Oil Co., Hertford, N. C., will open bids May 17 for machinery for oil mill.

Power Plant.—Pittman & Harrison, Sherman, Texas, want to correspond with parties relative to gas and gasoline engines, electric motors, new and second-hand steam plants.

Pump.—See "Mining Equipment."

Pump.—See "Water-works Equipment."

Railway Equipment.—Armitage Manufacturing Co., 3200-3300 Williamsburg avenue, Richmond, Va., wants to buy or rent a tank car with capacity of 5000 or 6000 gallons.

Railway Equipment.—Columbia & Lebanon Interurban Railway Co., W. K. Azbill, president, Lebanon, Ky., hopes to be in the market soon for everything necessary to build, equip and operate its line, an interurban railway, with a total mileage of 48 miles. Correspondence from firms desiring to bid will be filed and considered at the proper time.

Railway Equipment.—Clark & Warning, Harrison, Ark., want about 1400 tons of 25-pound steel rails with splices; one geared locomotive about 36 inch gauge, 15 tons; about 20 cars 10 or 15 tons capacity for hauling lumber (second-hand).

Railway Equipment.—Gardner & Bro., Bethel, N. C., want two miles of railroad iron, 16 to 30 pounds to the yard, one small locomotive and some small truck wheels.

Railway Equipment.—Joseph E. Bowen, Atlantic Office Building, Norfolk, Va., is in the market for immediate shipment for 12-inch, 13-inch or a 14-inch 36-inch-gauge mogul locomotive, to pass Hartford inspection, for North Carolina delivery.

Railway Equipment.—Justice Cox, Jr., & Co., 1238 Land Title Building, Philadelphia, Pa., want 30 standard-gauge flat cars at a low figure; not particular as to bodies being in good condition, providing the trucks and wheels are first class.

Reservoir.—See "Water-works Equipment."

Saw-mill.—Jos. E. Bowen, Atlantic Office Building, Norfolk, Va., wants saw-mill with a capacity of 15,000 feet.

Saw-mills.—Connolly & Teague, Taylorsville, N. C., want addresses of manufacturers of small band-saw mills.

Sewerage.—Chas. A. Wells, mayor, Hyattsville, Md., will open bids May 24 for construction of sewerage system at Hyattsville. Work consists approximately of six and three-quarters of a mile of brick and terra-cotta pipe sewers, with manholes, inlets and flush tanks. Plans, specifications and blank forms of proposals can be obtained from the mayor, or at the office of T. Chalkley Hatton, engineer, Wilmington, Del. A certified check for \$500 must accompany each proposal. Usual rights reserved.

Spoke Machinery.—F. P. White, Shallotte, N. C., wants machinery for manufacturing wire spokes and carriage spokes.

Steam Pipe.—See "Woodworking-factory Equipment."

Street Paving.—Town of Williamson, W. Va., will open bids May 19 for paving four streets with brick; Leete & Maupin, engineers, Huntington, W. Va.

Textile Machinery.—Rhode Island Co., Spray, N. C., wants machinery for working wool and waste.

Timber Lands.—J. C. Saxton, 18 Broadway, New York, wants to buy yellow-pine timber lands in Georgia, Louisiana or Alabama.

Water-works Supplies.—Darlington Light & Water Co., Darlington, S. C., wants prices f. o. b. Darlington on 1000 feet 10-inch pipe, 1500 feet eight-inch pipe, 10,000 feet six-inch pipe, 55 double-nozzle fire hydrants, two 10-inch hub valves, 10 eight-inch hub valves, six six-inch hub valves, 20 valve boxes, 5000 pounds jute, 31,000 pounds pig lead, six tons special casting.

Water-works.—City of Woodville, Miss., W. C. Miller, mayor, will open bids June 7 for construction of system of water-works and electric-light plant. Certified check equal to 5 per cent. of bid, made payable to D. C. Bramlette, city treasurer, must accompany each bid. Specifications, instructions to bidders, etc., can be obtained at office of mayor or C. N. Jenks, engineer, Fayette, Miss. Usual rights reserved.

Water-works.—Commissioners of Ridgely, Md., Charles E. Stevens, clerk, will consider estimates for furnishing equipment and material for construction of water-works to cost not more than \$15,000.

Water-works Equipment.—Caldiz Water Co., Caliz, Ky., wants prices on all size pipes up to six inches; steam pump, capacity 125 gallons per minute; boiler large enough to run same in connection with a three-ton ice plant.

Water-works Equipment.—W. B. Cox & Co., Pikeville, Ky., are in the market for machinery and supplies for water-works to be built at Louisa, Ky., and all equipment must be delivered in that city by July 1. The following is wanted: Pump with daily capacity of 500,000 gallons; gas engine to operate this pump against head of 200 feet; 6000 feet of four-inch, 2000 feet of six-inch and 3000 feet of eight-inch C. I. pipe; eight eight-inch iron-body gate valves; six six-inch, 16 four-inch, 30 C. I. valve boxes, 24 inches long; 15 four-inch fire hydrants, with two two-and-one-half-inch nozzles, depth to bottom of pipe 24 inches; two six-inch check valves, all valves to be hub ends; 16,000 feet of sewer pipe, etc. Estimated cost \$36,000, including reservoir system.

Wireglass.—See "Building Materials."

Woodworking-factory Equipment.—Augusta Manufacturing Co., Asheville, N. C., wants two swinging cut-off saws, glue jointers, single and double surfacers, etc., one 15-horse-power boiler and a quantity of one-and-a-quarter-inch steam pipe for dry-kiln.

Woodworking Machinery.—Bamberg Iron Works, Bamberg, S. C., wants prices on 52-inch veneer machine and 52-inch clipper.

Woodworking Machinery.—Stevens Lumber Co., Kersaw, S. C., wants an 8x14-inch matching machine (four sides).

Woodworking Machinery.—Acme Furniture Manufacturing Co., West Point, Miss., wants some of the machinery needed for manufacturing furniture, novelties, tables, tanks and silos. Address H. S. Dodenhoff.

Woodworking Machinery.—See "Spoke Machinery."

Woodworking Machinery.—See "Barrel and Box Machinery."

## MEXICO.

Brick Works.—Jose S. Diaz Company, Guadalajara City, has concession to establish smelter and brick works.

Cement, Clay and Marble Developments.—The corporation organized last year by Chas. Kratz, formerly of St. Louis, Mo., for development of clay, marble and cement properties in the State of Jalisco, expects to receive its government concession in a few days. Active work will then be begun and considerable modern machinery will be purchased. Address A. R. Urrea, Soledad Development Co., Guadalajara, Jalisco.

Copper and Silver Mines.—Martiniano Valle, Etzathan, Jalisco, will develop copper and silver mines.

Copper and Silver Mines.—John Breckinridge, Ayutla, Jalisco, will develop copper and silver mines.

Copper Mines.—Manuel G. Santata, Austria, Jalisco, will develop virgin vein of copper.

Copper Mines.—T. H. Hecker of Butte, Mont., proposes organizing a \$500,000 stock company to develop copper properties in the Santa Barbara district, State of Chihuahua. Three shafts have been sunk 50 to 150 feet deep, and it is said a three-foot vein assaying 60 per cent. has been uncovered at 60 feet.

Distilling Apparatus.—See "Electric-light and Power Plants."

Electric-light and Power Plants.—Ugarte & Garcia, electrical engineers and contractors, Guadalajara, Jalisco, have contracts for more than \$500,000 worth of equipment, and are in the market for electrical machinery and supplies, including air compressors, boilers, rock drills, copper wire, steam plows, traction engines, starch and alcohol machinery.

Electric-light Plant.—The Jefe Politico of Vera Cruz, V. C., is empowered by the municipal council to abandon the existing incandescent lights and substitute therefor electric arc lights.

Electric-light Plant.—City of Atotonilco,

Jalisco, is asking for bids to furnish electric lights. Public market will also be constructed. Address The Mayor.

Gold and Silver Mines.—Fernando Rubio Rocha, San Nicolas, Guanajuato, will develop gold and silver mines.

Gold and Silver Mines.—Eastern capitalists have become interested in the gold and silver mines of C. L. Graves, general manager of the Chihuahua & Pacific Railroad, Chihuahua, Chl., and plan to develop the property on a more extensive scale.

Gold and Silver Mines.—H. M. Snude, Mazatlan, Jalisco, will develop gold and silver mines.

Gold and Silver Mines.—Boston capitalists have purchased gold and silver properties near Guanacevi for \$1,000,000 and will develop same. Address John H. Judd, mining broker, Durango, Mexico.

Mining.—The Piedras Verdes Mining Co., Alamos, Sonora, will operate its mines recently purchased on a larger scale, and will need considerable machinery.

Mining.—The American & Mexico Mining & Development Co. of Chicago, Ill., will materially increase the production of its Velarde mines, in Durango, both in increased machinery and employees.

Mining.—The Lluria de Oro Mining Co., Alamos, Sonora, recently purchased by an American company at \$1,000,000, will exploit the property on a large scale with the most modern machinery.

Reduction and Concentrating Plant.—Murphy & Irling have contract to build reduction works and concentrating plant at Muzquiz, Coahuila, at which city J. J. Murphy of the firm can be addressed.

Silver Mines.—R. E. Nelson and Charles McGinniss of El Paso, Texas, are reported as developing silver mines near Tutuaca, Chihuahua.

Silver Mines.—G. W. Carter, Silao, Guanajuato, will develop silver mines.

Smelter.—Dwight Furness, formerly American consul in Guanajuato, and other capitalists have decided to erect a large smelter in the city of Guadalajara.

Smelter.—See "Brick Works."

Smelter.—Reports state that the Norias de Bajan Mining Co. will build a smelter.

Sugar Mill.—San Antonio Plantation Co. contemplates building 500-ton sugar mill at Cordoba, Vera Cruz. A. F. Freeman of San Antonio, Texas, is manager.

Sugar Mill.—The Tabasco Plantation Co.,

now developing about 7000 acres of land near Santa Lucrècia, has planted 2500 acres in sugar-cane and plans to erect a sugar mill with daily capacity of 250 tons of raw cane. J. F. Kruse of Minneapolis, Minn.; E. P. Wright of Alexandria, Minn., and others are interested in this enterprise.

Tin Mines.—Jesus Lopez, San Felipe, Guanajuato, will develop tin mines.

Water-works.—The city of Orizaba, Vera Cruz, is awaiting plans and specifications for construction of its proposed water-works, the previous plans submitted having been rejected. Address The Jefe Politico.

## Railways.

Electric Railway.—Janler Maxenim of Mazatlan has obtained a concession to establish electric railways in that city. Machinery for an electric-power and traction equipment will be needed at an early date.

Steam Railroad.—E. H. Harriman, president of the Southern Pacific Railroad, through his representative, J. A. Naugle, has obtained a concession from the Mexican government to build and operate a railroad running through the State of Sonora, connecting with the main line of the Southern Pacific Railroad in New Mexico. In addition to this concession, the Southern Pacific Company has also secured an option for a concession to extend the branch southeast from Mexicali to Ensenada, the capital of the northern territory of Lower California.

Steam Railroad.—The concession granted to Alfred Stoffel October 14 last to build a railway in the State of Michoacan from the Rancho de Agostitlan to a point on the National Railway has been amended, providing that surveys shall begin within a year after November 7 next, and that 19 kilometers must be finished within two years from that date, the whole of the line to be completed within four years.

Steam Railroad.—The Mitchell Mining Co. of Acapulco, Guerrero, contemplates the construction and operation of a railroad to connect its great copper properties with the port of Acapulco, 40 miles distant.

Steam Railroad.—The Torres & Prietas Railroad will be extended to San Javier in the Hermosillo district, Sonora. The carboniferous zone, of which San Javier is the center, will be exploited by a Guaymas company. Address the Jefe Politico, Guaymas, Sonora.

Street Railways.—The two mule-traction systems in Monterey will be changed to electric motive power. Address J. A. Robertson, Monterey, Mexico.

## Woodward Lumber Co.

One of the complete modern lumber plants at Augusta, Ga., is that of the Woodward Lumber Co., manufacturer of doors, sash, blinds, columns, stairs, mantels, flooring, ceiling, holding, inside trim in hard woods and yellow pine, etc. The company is prepared to make prompt shipments, and in the event that Baltimore architects or contractors need to place orders for hurried delivery they are invited to send for estimates.

## For a Woodworking Plant.

There is an undoubted opening at Norfolk, Va., for a general woodworking plant. In connection with this, attention is called to the offer of Peter Wright of Norfolk to sell the property comprising the plant formerly operated by the Builders' Manufacturing Co. This plant includes boiler-house, brick mill, flaking shop, dry-kiln, two 60-horse-power boilers, one 50-horse-power engine, 30 wood-working machines for planing mill, belting, shafting, pulleys, etc.

## Some Columbus Contracts.

Recent sales made by the Columbus (Ga.) Iron Works Co. included important equipments of machinery. The company furnished a six-ton ice-machine equipment to Crystal (Fla.) Ice Co., machinery for six-ton ice plant (replacing a compression plant) to Cuthbert (Ga.) Ice Co., 25-ton machine to Thomasville (Ga.) Ice Co., water-wheel equipment to develop 470 horse-power to Floyd & Co., Eatonton, Ga., and machinery for developing power to M. B. Hagood, Barnwell, S. C.

## Locomotives to Collide.

At Piney Beach, Va., a suburb of Norfolk and the site of the Jamestown Exposition, there will be on May 24, 1904, an interesting spectacle consisting of two locomotives colliding head-on at a speed of 35 miles per hour. While this is designed especially to attract a general crowd, it ought to be of value from an engineering standpoint as well. The engines are furnished by J. E. Bowen, Atlantic Building, Norfolk, Va. Mr. Bowen is a dealer in second-hand equipment, relaying rails, etc.

## Irving A. Taylor.

Irving A. Taylor, who has for many years been connected with the electrical industry both on the manufacturing side and as consulting engineer, associated with A. B. Herkirk, has joined the staff of the Engineering Company of America of New York city. Mr. Taylor has had a very broad experience in central-station work not only with Edison systems, but also with high-tension transmission plants, one of his recent tasks being the installation of the 12,000-volt generators at the power-house of the Niagara Falls Hydraulic Power Co.

## The Coe Exhibit at St. Louis.

Manufacturers who are interested in high-grade veneer-cutting machinery will find a comprehensive line of equipment exhibited at the St. Louis Exposition by the Coe Manufacturing Co. of Painesville, Ohio. This company designs, manufactures and has introduced some of the most successful veneer-cutting machines on the market. It will have an exhibit of 15 different machines, occupying a space 45x110 feet in extent in the Machinery Building, Section B, Block II. Veneer-cutting and drying machines will be in operation daily.

## Savannah Locomotive Works News.

The Savannah (Ga.) Locomotive Works & Supply Co. has been appointed Southern agent for the Buda Foundry & Manufacturing Co. and the Paige Iron Co., manufacturers, and will carry a full line of lever cars, pushcarts, tracklaying cars, track gauges, rail drills, rail benders, etc. The Savannah company received a number of good orders during April, including general overhauling to locomotives of the Babcock (Ga.) Bros. Lumber Co., the Penn Lumber Co. of Sumter, S. C., and sold a 15x24-inch American type locomotive to H. J. McLaren, Jr., of Sumter, S. C.

## Selected the Winslow Elevator.

There will be many passenger and freight elevators needed in the modern warehouses, office buildings and other structures to be erected in Baltimore's burned district. It is, therefore, of interest to know what make of elevators are selected for prominent buildings elsewhere. One of the latter, the Knights of Pythias Temple, in Washington, D. C., is to be equipped with the Winslow Elevator. The contract for installation has just been awarded to the Winslow Elevator & Machine Co. It calls for a high-grade direct-connected electric machine with full magnetic control. The Winslow Elevator & Machine Co. is of 96-100 North Clinton street.

## INDUSTRIAL NEWS OF INTEREST

### A Cypress Shingle Mill.

An established shingle mill in Louisiana is offered for sale. It is located on lake connected with the river, and an inexhaustible supply of logs is at hand. For information address H. T. Benoit, Riverton, La., or J. S. Handy, Monroe, La.

### Allis-Chalmers' Canadian Business.

The Canadian business of the Allis-Chalmers Company of Chicago, which recently acquired the Bullock Electric Manufacturing Co. of Cincinnati, will hereafter be conducted by a new organization bearing the name Allis-Chalmers-Bullock, Limited. The works and principal offices are in Montreal.

### Zelnicker's Chicago Office.

The Walter A. Zelnicker Supply Co. has removed its Chicago offices from the Old Colony Building to the Railway Exchange Building, Jackson Boulevard and Michigan avenue. Rooms 620 and 622 have been secured and ample accommodations are available. H. L. Schamberg is in charge of this office.

### A Gas-Plant Bargain.

A complete gas plant is offered for sale at a low figure by W. T. Levi, Charleston, W. Va. It comprises two batteries of 72 retorts each, one battery never fired; also two 16-inch rotary exhausters complete with engines, three large scrubbers with engine attached to each, coal-tar extractor, etc.; also large steel frame building. Write for further details.

### Especially Ginning Machinery.

The Gibbes Machinery Co. of Columbia, S. C., offices at 804 West Gervais street, is calling especial attention at this time to the fact that it can furnish complete equipments of the latest mechanical appliances for cotton ginning, also kindred machinery. The company will, of course, continue to have its usual facilities for furnishing engines, boilers, saw-mills and other machinery equipment.

### A Foundry to Lease.

Manufacturers seeking a foundry plant are advised that an excellent opportunity is offered in an established enterprise near Washington, D. C. This plant is especially adapted for jobbing business or for special work, as it has both a pattern and machine shop connected with it. A strict personal investigation is invited. Parties desiring to investigate can address "Fundex," care of the Manufacturers' Record.

### H. V. Croll to San Francisco.

H. V. Croll, who has been in charge of the Salt Lake City office of the Allis-Chalmers Company of Chicago for several years, and who was before that the representative of the E. P. Allis Company at Spokane, has been appointed to the charge of the Allis-Chalmers office in San Francisco as the successor of George Ames, who has resigned. Mr. Croll's San Francisco office is at 623 Hayward Building.

### Vanhorne Glass.

Messrs. D. A. Vanhorne & Co. have removed their main establishment from 40 to 48 Vestry street to 467-469 Greenwich street, corner of Watts street, New York city. This change should be noted by buyers who are generally familiar with the Vanhorne offerings. Messrs. Vanhorne & Co. import French window, picture and car glass, manufacture bent glass, French mirrors, beveled plates, etc., having an extensive plant at Newark, New Jersey.

### Stiles Foundry & Supply Co.

The Stiles Foundry & Supply Co. has been incorporated with capital stock of \$25,000. It acquires the supply business of Messrs. Stiles Bros. and the business of the Parkersburg Casting Co., which was also owned by Stiles Bros., and will continue under the management of Louis Knapp, formerly of the Pullman Car Co. and the Central Car Wheel Co. of Pittsburgh. The Stiles Foundry & Supply Co. has its main offices and plants at Parkersburg, W. Va.

Chicago, New York, Philadelphia and Baltimore. Its Baltimore offices are at Clay and Liberty streets.

#### SOUTHERN MACHINERY EXCHANGE BUREAU.

Another source of supply from which can be obtained machinery and other mechanical supplies needed in the industrial growth of the South has been established. It is the Southern Machinery Exchange Bureau of Norfolk, Va. This company will be prepared to furnish promptly machinery of every description, new and second-hand, and will buy and dismantle mills, factories and other industrial plants. E. P. McNally has been chosen manager of the Exchange. His extended experience in the mechanical field (especially in cottonseed-oil milling, with which industry he has been connected for some years,) will enable the Exchange to offer attractive prices for machinery buyers to consider when they are in the market for equipment.

#### FRANKLIN BOILERS FOR ST. LOUIS.

Franklin Water-Tube Boilers, manufactured by the Franklin Boiler Works Co., whose shops are in Troy, N. Y., have been selected by the Philippine government board of the Louisiana Purchase Exposition to furnish the entire amount of boiler power used in this \$2,000,000 government exhibit. These modern boilers will furnish over 1000 horsepower of steam for all of the exhibit's various requirements. In this connection it is interesting to note the success of the Franklin Water-Tube Boiler. It was first put on the market in January, 1901. Since that time it has met with constantly-increasing popularity. It is now being used by many of the largest corporations in the country, whose original orders have been many times repeated. Its selection by the Philippine board is a triumph.

#### CHARLES HENRY DAVIS & PARTNERS.

Announcement is made of the dissolution of the firm of Messrs. Charles Henry Davis & Partners, engineers and architects, New York, Philadelphia and Boston. Charles Henry Davis and Nat Tyler, Jr., will continue as Charles Henry Davis & Co., 25 Broad street, New York, equipments for road-making, road-repairing, elevating, conveying and screening. Charles Henry Davis, 25 Broad street, New York; Land Title Building, Philadelphia, and 4 State street, Boston, will represent the Davis Estates, American Road Machine Co. and Penn Iron & Coal Co. Timothy W. Sprague will continue as consulting engineer, 4 State street, Boston, and New York office with Charles Henry Davis. John S. Griggs, Jr., will continue the practice of consulting engineer at 25 Broad street, New York; J. Byers Holbrook will continue to practice as consulting, heating and ventilating engineer at 25 Broad street, New York.

#### CARBORUNDUM AT ST. LOUIS.

The Carborundum Company of Niagara Falls, N. Y., has shipped two freight cars loaded with products to be displayed at the St. Louis Exposition. The exhibit will occupy Block No. 16 in the Machinery Building, and will be one of the most elaborate ever made by the Carborundum Company. One of the principal features will be a great pyramid of Carborundum crystals, seven feet high and six feet in diameter at the base. The crystals are of the most beautiful shapes and colors, and will produce a really dazzling effect when properly lighted. The balance of the exhibit will be made up of Carborundum wheels, sharpening stones and other products; also samples of different work that has been made possible by the use of Carborundum. This display will be in charge of William H. Arison, who had charge of the Carborundum exhibit at Buffalo, and E. W. Taylor, who was in charge of the Charleston (S. C.) display.

#### GEAR-CUTTING SPECIALISTS.

All buyers and users of gears know that the manufacture of gears is one of the important branches of the mechanical industries. In order to produce the best possible gears it is necessary to have a most modern equipment, to use the best materials and to employ only high-grade and careful workmen. The Earle Gear & Machine Co. of Philadelphia is a specialist in this work. If you have any gear-cutting that you are particular about, the company wants to send an estimate. The company can cut worm or spiral gears up to 73 inches in diameter; spur, bevel and internal gears up to 96-inch-pitch diameter, and racks as desired, and its specialty will be large gears. Gears will be made complete or cut from either rough or finished blanks. Designs will be furnished for gear transmission, and special machinery will be developed and manufactured from the company's own or customers' designs. Rawhide gears are included in the Earle

offerings. Edgar P. Earle, formerly with the Westinghouse Machine Co.; Robert J. Snyder, formerly with the Morgan Engineering Co., and Frank D. Hamlin, formerly with the Fawcett Machine Co., compose the Earle Gear & Machine Co., with plants at Oxford and Mascher streets. Represented by Mr. Snyder at 1318 Land Title Building, Philadelphia.

#### THE PHILLIP CAREY EXHIBIT.

Visitors to St. Louis interested in magnesia in its various forms for roofing and insulating purposes, etc., will find a complete exhibit of the Phillip Carey Manufacturing Co. products in Machinery Hall, southeast corner of Section 26. The Phillip Carey Manufacturing Co. manufactures Carey's Magnesia Flexible Cement Roofing, Carey's Asbestos Sectional Steam Pipe and Boiler Coverings, Carey's 85 Per Cent. Magnesia Steam Pipe and Boiler Coverings, asbestos and asphalt materials, locomotive laggings, etc. These articles are made at the Carey plants in Lockland, Philadelphia and New England. There will also be shown the products of the Carey roofing and paint factories. It may be added that the boilers, heaters, breechings, pipe and other connections of the immense power plants, as well as the connections of the private exhibits at the exposition, have been insulated with Carey's 85 per cent. magnesia goods. The Carey booth will occupy a 30x30-foot space.

#### TRADE LITERATURE.

##### M. C. TYPE MOTORS.

Bulletin No. 216 of the Sprague Electric Co. is devoted to the M. C. Type Motors—direct current—and will be mailed to inquirers. Address the Sprague Electric Co., 527 West 34th street, New York.

##### ASBESTOS CEMENT FOR BOILER COVERING.

Steam-users who recognize the advantages of asbestos cement are invited to write the Southern Pipe Covering Factory, Richmond, Va., for leaflet which tells all about Selph's Asbestos Cement for boiler-covering, etc. John A. Selph is proprietor of the factory.

##### SECOND-HAND FAY & EGAN MACHINES.

Buyers of woodworking machinery who can use second-hand equipments are invited to write the Fay & Egan Co. for list of machines the company has in stock. Every variety of mechanical equipment for woodworking is listed. Write the Cincinnati offices.

##### WAINWRIGHT CORRUGATED APPLIANCES.

A catalogue is being issued giving illustrations which show various forms of feed-water heaters, copper gaskets and expansion joints made and sold by the Taunton Locomotive Manufacturing Co., Taunton Mass., with agents in St. Louis, Baltimore, Cincinnati, Richmond, Kansas City, New Orleans, Galveston, Cleveland and other cities.

##### GREGORY ELECTRICAL BARGAIN SHEET.

Users of electrical machinery who are in need of equipment which they wish to buy at bargain prices are asked to send for the bargain list issued by the Gregory Electric Co., 54 South Clinton street, Chicago. This company offers various makes of dynamos, motors, transformers, meters, arc lamps and instruments. A large stock is on hand at present.

##### "CENTURY" RUBBER BELT CONVEYORS.

Users of conveying equipments will find interesting data in the supplement to the Jeffrey "Century" Rubber Belt Conveyor catalogue, issued by the Jeffrey Manufacturing Co., Columbus, Ohio. These conveying devices handle material of any and every kind, and their use promotes economy in factories, mills and warehouses, at piers and freight-houses and elsewhere.

##### ELECTRIC FANS.

The use of electric fans has kept pace with the rapid growth of the practical use of electricity, until now they are considered a necessity rather than a luxury. As the season for electric fans is now here, purchasers will begin investigating the different makes before giving their orders. The Sprague Electric Co., 527 West 34th street, New York, is issuing its catalogue, copies of which can be obtained on request. It makes the celebrated Lundell fans.

##### SPANISH PRINTED TANK CATALOGUE.

Owing to the growing demand for modern galvanized-steel tanks and similar receptacles in the Spanish-speaking countries south of the United States, the Kelly Foundry & Machine Co. has issued a Spanish-printed catalogue. The publication is replete with information, including reference to size, prices, etc., enabling prospective pur-

chasers to make a proper selection of what is needed for their purpose and pointing the way to have tanks built to order when necessary. The Kelly Foundry & Machine Co. has an extensive plant at Goshen, Ind., where its tanks are built.

##### SUGGESTIONS FOR SETTING WATER METERS.

Where it is found necessary or desirable to set water meters outside a method has been followed that may be employed to good advantage. The method is inexpensive and has been used by a large number of water departments with satisfactory results. This method is explained and illustrated in a leaflet issued by the Pittsburgh Meter Co., East Pittsburg, Pa. Interested parties are invited to send for leaflet.

##### MAP OF ST. LOUIS FAIR.

Ewing-Merkle Electric Co. of St. Louis, Mo., has issued an illuminated and indexed map of the World's Fair grounds and "The Pike." This map is 8x12 inches in size and folds up into a neat envelope, so that it can be easily carried in the vest pocket. It shows the location of every building and every feature on the grounds, and the index enables one to find instantly the location sought. A copy will be given free to anyone who applies for it either personally or by mail.

##### PATENT PULVERIZING CYLINDERS.

All business men who have need for pulverizing equipments in the conduct of their enterprises will find useful information in the J. R. Alsing Company's catalogue of pulverizing cylinders. These cylinders are built in two styles, with either intermittent or continuous feed and discharge, and in all sizes to suit any capacity. The Alsing Company manufactures also all sorts of machines pertaining to the reduction of all kinds of materials, as thousands of users are aware to their great satisfaction. Send to the main offices at 136 Liberty street, New York, for catalogue.

##### WOLFPRENT'S PACIFIC COAST NUMBER.

The May issue of Wolprent's is devoted to Pacific Coast flour-milling news. It contains some interesting data regarding the Wolf Company's offices in that territory and model mills which have been furnished with machinery from the Wolf works at Chambersburg, Pa. One of the mills illustrated and described is the Angelus Mills of Los Angeles, Cal. This plant has an output of 400 barrels of flour and 250 bushels of cornmeal daily. It has some features that will interest every miller desirous of keeping informed as to the best equipments for milling purposes. Copies of Wolprent's are sent to inquirers.

##### MODERN STEEL TANKS.

The Kelly Foundry & Machine Co. of Goshen, Ind., has issued a new catalogue of its steel tanks, tank heaters, low wagon wheels, feed cookers, etc. This company has recognized the demand for a cheaper-grade tank than its celebrated Goshen, and is now offering the Tiger Steel Tanks, which are fully detailed in the catalogue. This catalogue is a standard book for buyers of steel tanks, and will be found very useful for the hardware, windmill and implement trades. The Kelly Company's facilities are thoroughly modern, and its products have, in the past, always maintained their reputation for highest quality.

##### THE LEFFEL NEW CATALOGUE.

The new catalogue of engines and boilers made by James Leffel & Co. of Springfield, Ohio, is a book that will interest many of our readers. It should interest anyone who has to do with steam power. This book goes into the matter of the making of Leffel Engines and Boilers, and shows on what their superiority is based. It is well prepared, printed on heavy enameled paper, has numerous full-page and smaller illustrations, and is filled with just such detailed information about engines and boilers as to make it truly valuable to those using or contemplating using an engine or boiler. The book will be mailed free to prospective buyers of an engine or boiler stating wants and addressing the company as above.

##### ANNUAL REPORT PHILADELPHIA BOURSE.

The directors of the Philadelphia Bourse submitted their thirteenth annual report at the meeting of stockholders in Philadelphia on May 10. This report was a most creditable one, showing that steady progress has been made in various directions, including that to which the Bourse has devoted so much attention—the exhibition of machinery for examination by buyers from all parts of the United States. The attendance in this department increased about 3500 over the previous year, the total attendance being 673,245. In its other work for commercial and indus-

trial progress the Philadelphia Bourse has been very successful, and as a business proposition the Bourse does certainly not disappoint its stockholders. Emil P. Albrecht is secretary of the organization.

##### AMERICAN WIRE ROPE AND FITTINGS.

An Illustrated catalogue issued by the American Steel & Wire Co. is devoted to descriptions of wire rope and fittings of every description manufactured by the company. All the American ropes are made of iron, crucible cast steel, plow steel or galvanized iron or steel, according to requirements. A diversified line is carried in stock, and special rope of any kind may be readily made to suit buyers' specifications and purposes. Besides cataloguing the rope, etc., this publication gives some important suggestions to users of wire rope for hoisting, conveying, towing, etc. Sales offices of the American Company are located in The Rookery, Chicago; Western Reserve Building, Cleveland; 1335 Papin street, St. Louis, and in other large cities throughout the United States and Europe.

##### "CONVEYING CHUNKS OF COLD COMFORT."

Apt alliteration's artful aid is seen in the title "Conveying Chunks of Cold Comfort," a pamphlet devoted to a brief explanation and illustration of ice-elevating, conveying and lowering machinery as built by Messrs. Gifford Bros. of Hudson, N. Y. The Messrs. Gifford both manufacture and install the class of equipments referred to, making a specialty of this work. Locations and conditions governing the handling and storage of ice vary so widely that it frequently becomes necessary to modify standard designs of mechanical equipment for this purpose, and this the Gifford Bros. have been doing successfully for some years. Their pamphlet will be of interest to manufacturers of ice, to dealers in ice and to others who handle ice in large quantities, supply refrigerator cars, etc., and want to know the best ways and means for doing the work most expeditiously and economically.

##### A CONCRETE FOUNDATION.

Concrete construction is a line of work now universally recognized as successful and daily attracting more attention. Contractors and engineers are aware that one of the important necessities in such construction is the concrete mixer, and that the appliance should thoroughly and quickly complete the task for which it is intended. In this connection there has been issued a brochure entitled "A Concrete Foundation," which briefly but completely outlines some important facts relating to concrete construction, and refers particularly to the mixers and other concrete machinery manufactured by the Ransome Concrete Machinery Co., 11 Broadway, New York. This company has had exceptional experience as engineers and contractors, and has evolved appliances that handle material from storage pile to finished structure in the most expeditious and economical manner. Write for a copy of the booklet.

##### ROUTE TO ST. LOUIS EXPOSITION.

The opening of the St. Louis Exposition proclaimed to visitors the truth of the promises which the managers have been making. The beautiful buildings and their various styles of architecture, the massive machinery, the varied industries with their factories and workmen, the costly art displays, the rare foreign exhibits and those novel features—the Plateau of States and the Pike, which completely eclipses Chicago's Midway—amaze the visitors. The accommodations at the hotels are reasonable in price and first class. The train accommodations are perfect, and the new Wabash Station just outside the fair grounds is where the Boston & Maine Railroad through cars enter. Any person intending to visit the St. Louis Exposition should send to the Boston & Maine Passenger Department, Boston, for Illustrated booklet describing the exposition and giving all necessary information in regard to the rates and routes; also an additional slip giving the diverse routes and the rates.

##### BALL-BEARING DOOR HANGERS.

Since the introducing of the Reliance Ball-Bearing Door Hanger, less than a year ago, the rapid increase of sales attests the popularity of the device. Its practical noiseless and easy-running action, the high-grade material used in each hanger, combined with the care in manufacture, has quickly won for it a permanent position in the hardware world. An Illustrated and descriptive booklet concerning the Reliance is now being issued by the Reliance Ball-Bearing Door Hanger Co., its manufacturer. This company also builds air cushions for elevators, a device that has been before the public for 25 years and the adoption of which has saved many lives. Plans and estimates for equip-

ping any elevator plant with this meritorious device will be readily furnished. The Reliance Ball-Bearing Door Hanger Co. has its main offices in the Metropolitan Building at No. 1 Madison avenue, New York city. F. T. Ellithorpe is president; H. C. Alger, vice-president, and H. L. Balch, secretary-treasurer.

#### Industrial Cars and Track.

In various industrial operations the rail-way plays an important part. This has been brought about by the demand for the best possible facilities in transferring materials in and around manufacturing plants, in coal and iron mines and in the many other enterprises where material must be expeditiously conveyed from one point to another. The design and manufacture of rails, locomotives, cars and other equipment especially for industrial purposes has attracted the attention of the leading engineering firms, prominent among them being the Wonham-Magor Engineering Works, which has an extensive plant at Passaic, N. J., and main offices in the Columbia Building, New York city. This company is issuing a complete illustrated catalogue of its offerings. It lists industrial and portable track, hopper-bottom cars, flat cars, cable railways, charging wagons, dryer cars, and, in fact, every variety of locomotive or car useful to mills, factories, plantations, etc. Copies of the catalogue are ready for mailing to inquirers.

#### For Icemaking Industry.

There is now being issued a special division of the Nason general supply catalogue. It is devoted exclusively to all-iron appurtenances used in connection with icemaking and refrigerating machinery. To meet the growing demands for the lighter patterns of steel fittings extensive additions have been made to this group, and the Nason lists as now published will be found sufficiently complete to meet all modern requirements both in the screwed and flanged types. Attention is directed to the several styles of gland-end, screwed and flanged valves which have been added to earlier patterns; also to the very complete line of expansion valves and cocks now shown. Reference to the group of condensers, coolers and other fixtures and accessories will be found interesting to users of this class of apparatus. The articles are made by the Nason Manufacturing Co., which has been associated with the ice-making industry from its inception. If you want a Nason catalogue, address the company at its main office, 71 Fulton street, New York.

#### Hydraulic Presses.

Hydraulic or hydrostatic presses have been in practical use for 100 years, but it has only been during recent years that hydraulic pressure has been found applicable to so many different purposes. For more than 25 years the Thomas-Albright Company of Goshen, Ind., has been manufacturing these machines, and during that time has introduced many improvements. Realizing that every day brings forth new ideas, the company spares no expense to keep its presses strictly up to date. The materials entering into their construction are carefully selected, and the workmanship is of the highest character. All parts are given a close inspection while building, and each press a rigid test before leaving the factory. Catalogue B, entitled "Hydraulic Presses," is issued by the Thomas-Albright Company to illustrate its regular line of presses for various purposes. Besides those listed, a number of different styles and sizes can be obtained or detailed specifications and estimates will be furnished on presses for any special requirement.

#### Light and Illuminating Engineering.

A publication entitled "Light and Illuminating Engineering" should be read by every man interested in the proper lighting of stores, mills, factories, offices and other places of business. Its author is W. D'A. Ryan. A synopsis of contents shows the importance of the manner in which the subject is treated. It is as follows: 1. Experience in matching colors and buying or selling colored merchandise under alternating and direct current arcs, Nernst, incandescent, Weisbach and hydrocarbon lights. 2. Open vs. enclosed arcs for interior illumination. 3. Comparative illuminating value of 90-volt vs. 100-volt enclosed arcs. 4. Difficulties encountered in lighting cotton mills, silk and woolen mills, with special reference to saw-tooth roofs. 5. Lighting of machine shops, iron foundries and silk mills. 6. Lighting of ship sheds and interior of steel ships under construction. 7. Store illumination—small vs. large units. 8. Number of feet illuminated per lamp and watts per square foot for different classes of work. Results of suspending lamps at different heights. 9. Relative effects of illumination with direct, concealed

and semiconcealed methods of arc lighting. 10. The advertising feature of strong interior illumination vs. decorating the fronts of buildings with incandescent lights. Copies of the book can be obtained from the General Electric Co. of Schenectady, N. Y.

#### Niagara Machine & Tool Works.

The 1904 edition of the Niagara Machine & Tool Works (formerly Niagara Stamping & Tool Co.) is now being distributed. This company's tools are carefully designed to make them best adapted to the work for which they are intended, and are the result of long experience and careful investigation. They are offered to purchasers upon their merits, and a rigid examination of their efficiency and durability is invited. In making the Niagara tools nothing but the best materials are used, and the castings are made in the company's own foundry, which has superior facilities and a force of skilled workmen, producing work of the highest class. The tools and machines for working sheet metal are very extensive. The catalogue is fully illustrated, and describes the various power squaring shears, gang slitting machines, inclinable power presses, power arch presses, power punching machines, foot presses and other machines, tools and supplies of Niagara make, which have earned such an excellent reputation with users throughout the industrial world. The company's offices are at Buffalo, N. Y.

#### Vacuum Canning Machinery.

The American Vacuum Can & Machine Co. of Bainbridge, N. Y., is issuing an illustrated pamphlet explanatory of its patented vacuum canning machinery. In this equipment the company states it offers a process that will do the work required more simply, quicker and with greater efficiency than by other methods. Four years of practical demonstration and the fact that these machines are employed by the largest packing-houses, as well as by leading fruit canners and preservers of milk products, warrants the statement that preserving perishable products successfully by the vacuum method is a well-established fact. The machines are manufactured in three sizes in order to meet all demands. The large factory size machine is operated by either steam or belt power, and the two sizes of machines for limited plants may be operated by either hand or belt. These latter are designed for use in small canning factories and meat markets, by grocerymen, milkmen and other tradesmen. Further facts concerning these machines can be obtained by addressing the company either at Bainbridge or at its Chicago office, 1264 Monadnock Building.

#### Good Roofing Tin and Good Workmanship.

Because of its light weight, strength, pliability, water and fire proof qualities, good terne plate continues to be universally used for roofing purposes. The essential requirements of a good tin roof are good roofing tin and good workmanship. The latter cannot be supplied by tinplate manufacturers, but the terne plates can be supplied, and are supplied in immense quantities today throughout the United States, by the American Tinplate Co., offices in the Frick Building, Pittsburgh, Pa. This company is naturally interested in good workmanship in the putting on of tin roofs, and to assist in providing same has issued a leaflet of instructions and specifications prepared by Messrs. J. D. McIlroy & Sons, roofers, established in 1859, with offices at 114 Smithfield street, Pittsburgh. The American Tinplate Co. sends these specifications to all progressive roofers who want to be informed as to methods followed by one of the most successful roofing firms in this country. The American Company's M. F. Old Style and the U. S. Eagle New Method Terne Plates are carried in stock by metal houses, and roofers will have no difficulty in obtaining the brands, and if they want their good workmanship to be effective, they will use good tinplate.

#### Concerning Fireproof Windows.

There is no doubt as to the great interest being manifested at this time in means for the prevention of fires. This interest has been largely augmented by the recent fires in Toronto, Rochester and Baltimore. In Baltimore reconstruction has begun, and one result of investigations by the architects and contractors of that city will be seen in the number of fireproof windows used on the new structures. This makes it pertinent to call special attention to Voigtmann's Standard Fireproof Window, manufactured by Messrs. Voigtmann & Co., 123 Ontario street, Chicago; 8-12 Jones street, New York, and other cities. Voigtmann & Co. manufacture iron and copper window frames and sashes for carrying wireglass, the Voigtmann Standard Automatic Closing

and Locking Window, and kindred products for retarding and preventing the spread of fires. These are not experimental, but have been fully tried and adopted by the most careful architects, contractors and owners of buildings in all parts of the United States. The firm has issued an illustrated pamphlet telling the exact facts regarding its product. The data is the natural result of experience, tests and demonstration, and should have the consideration of every man who wants to inform himself as to the best possible fire-proofing devices of our day. Write the New York offices, or write or call at the Baltimore offices, 220 North Liberty street, Wm. A. Heartt being the agent in charge.

#### "Nazareth" Portland Cement.

Engineers, architects and contractors know the universal demand for Portland cement in various kinds of construction work. They know that in order to obtain the best possible results it is necessary the quality of the cement used be fully up to specifications and one which can be depended on at all times. "Nazareth" Portland cement is then brought to mind. A special pamphlet regarding "Nazareth" Portland cement is being distributed. It gives the facts regarding important operations in which "Nazareth" has been used, together with few heretofore unpublished tests. The manufacturer of this cement states that its absolute uniformity of strength, color and fineness is due to a most rigid system of tests and chemical supervision during manufacture and before shipment to the buyer. For any kind of work this cement is adapted. This year probably 25 per cent. of the output will be used for cement sidewalks. As sidewalks, of all cement work, will develop faults and show signs of wear the quickest, the wisdom of using "Nazareth" cement for this work is evident. It was used for 100,000 square yards of pavement in Washington last year, not to mention various other cities. The "Nazareth" pamphlet is handsomely illustrated, and its contents enable one not heretofore acquainted (and there are a few) with the "Nazareth" brand to recognize that their contracts should not be placed before examining the claims of this make. The Charles Warner Company of Wilmington, Del., is sole sales agent for the "Nazareth" Portland cement. Write for copies of pamphlet.

#### Austin Sprinklers and Sweepers.

In presenting its new catalogue the Austin Manufacturing Co. of Chicago does so with the assurance that all the good points heretofore entering into the construction of its sprinklers and sweepers are retained, while new and valuable features have been added which appeal strongly to every practical man. The machines are simple and strong in construction, easy of adjustment, and with so effective that they are favorites with municipal officials and contractors. The Austin catalogue contains photographic illustrations of recent large shipments of Austin Sprinklers and Sweepers illustrating the character and extent of the trade in them. When the United States orders Austin Sprinklers in the trainload for use in Washington, in Yellowstone Park and in its various army posts and preserves, and continues giving similar orders extending over the past years; when New York, Philadelphia and practically all the principal cities buy Austin Sprinklers in not only carloads but trainloads, as shown by these views; when cities like St. Paul buy a complete equipment of 50 sprinklers in one order, making a single shipment of 13 large carloads, and buy every sprinkler at Austin, the Austin Manufacturing Co. thinks it is justified in the claim that it receives "the cream" of the sprinkler and sweeper trade of this country. With years of experience as manufacturers of municipal machinery, the Austin Manufacturing Co. offers a line of Austin goods on which it can safely stake its business reputation. Intending purchasers need not hesitate to mail or wire their orders. They will receive the same prompt and careful attention as though they went in person to make their own selections. The company's catalogue is exceptionally clear, concise and presentable from the printers' standpoint. Its cover pages are rather odd, being excellent imitations of leather with burned lettering. Send for one.

#### Baltimore as a Warning.

For the reason that the same conditions that made the fire of February 7 possible in Baltimore exist to a greater or less degree in nearly every large city of the world has led the Roebling Construction Co. of New York city to issue a handsomely-illustrated brochure entitled "The Baltimore Fire—The Iroquois Theater Fire," in which are emphasized the significance and importance of the lessons that are plainly taught by these two fires as to the design and construction of

future buildings. From a technical standpoint, and yet in popular style, are discussed the results of the fire in non-fireproof buildings and in fireproof buildings, together with a discussion of the use of hollow blocks, concrete and other substances in construction. The lessons suggested in the publication are that all openings should be protected against exterior attack, that common brick is the best material for exterior walls, that stone bases, columns and caps should be avoided, that a strong, efficient floor construction should be selected, that pipes inside of the column protection are objectionable, that metal treads should be provided in all stairways, that provision should be made for expansion of lintels and mullions, that the steel members supporting walls should be carefully protected, that face brick and all veneering should be bonded with the backing, that hollow-tile floor blocks should not be punctured to support marble or other finish, and that buildings more than 100 feet high should be equipped with standpipes.

#### Cement Buildings.

With the title "Cement Buildings" there has been issued an illustrated pamphlet that should not fail to attract the attention of those architects, contractors and owners of buildings who desire to keep posted as to the very latest methods and materials of construction. The pamphlet's front page presents a picture of a wall, and beneath it the following summary: "A fireproof, light, hollow dead wall and partition, impervious to heat, cold, moisture and vermin; warm in winter and cool in summer, costing much less than brick, stone or any other cement building block on the market." Such a statement invites investigation, and investigation of the strictest kind is invited by the American Hydraulic Stone Co., which is introducing the cement building block referred to. "Cement Buildings" contains a number of interesting illustrations of buildings erected entirely of the product of the American Company, besides illustrations of blocks, partially-completed walls, and facts and figures as to the strength, durability and low cost of this new hydraulic stone. The American pamphlet will at any time be interesting to those to whom it is directed, but especially at such a time as this in the history of Baltimore, when more than a thousand buildings are to be erected as rapidly as possible. Because of the unfortunate circumstances that have created the necessity for erecting these buildings, their fireproof features will be given great consideration. It is in this connection, besides its various other features of excellence, that the American Hydraulic Stone Co.'s products should appeal to Baltimoreans. The company states that fireproof buildings with hollow concrete walls constructed of the blocks which it controls will last for all time. You furnish certain parts of sand and gravel (or broken stone), one part cement, seven men (six unskilled), and the company says it does the rest, making by hand labor 1000 square feet of fireproof wall in a 10-hour day, ready for laying in 10 days. No power necessary. No burning—simply turn on the hose. To investigate this new building material address the company at its general offices, 214 Century Building, Denver, Col.

#### Steel-Armored Concrete Construction

The following regulations for concrete construction will be maintained by the Baltimore inspector of buildings until the proposed building laws have been adopted:

1. All material must be clean, free of loam or saline matter.

2. Stone—All stone must be either crushed limestone, trap rock or bastard granite or clean gravel, and not to exceed one inch in size, but three-quarters of an inch is preferable. No cinders will be permitted.

3. Sand—All sand must be clean, siliceous, and free of loam.

4. Cement—Only high grades of Portland cement will be permitted in reinforced concrete construction.

5. The concrete must be mixed in the following manner:

A—For columns, one part of cement to four parts of stone, and sufficient amount of sand to fill all voids.

B—For beams and floors, one part of cement and five parts of stone, and sufficient amount of sand to fill all voids.

C—The amount of sand to be determined by filling a vessel with either stone or gravel and adding thereto sufficient water to fill the vessel. Drain off the

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water, and the amount of sand to be added shall be in quantity the same as the amount of water taken from the vessel.

D—The concrete shall be mixed as follows: On a layer of stone, sand and cement to be added in proportions as called for in "C," and the mass to be thoroughly mixed twice in a dry state, then add clean water, mixing the mass thoroughly twice.

6. All concrete to be put in the forms in a plastic state, with enough water to make the adhesion to the steel perfect.

7. All concrete must be rammed thoroughly with iron or steel tamping bars, and shall not be disturbed for at least 24 hours, to allow initial set.

8. Test shall be made 28 days after completion of work.

9. Concrete steel shall be designed so that the stresses in concrete and the steel shall not exceed the following limits: Concrete in compression, 350 pounds per square; tensile stress in steel, 16,000 pounds per square; shearing, 10,000 pounds per square; compression in steel for columns 20 feet and under, 30,000 pounds per square.

10. The following assumption shall guide the determination of the bending moments in monolithic construction due to external forces:

A—Beams and girders should be considered as built in solid at the ends, but no allowance being made for continuous construction over supports. Bending moment  $W \times L$

10.

B—Floor plates, when constructed continuous and when provided with reinforcement at top of plate over the supports, may be considered as continuous beams, the bending moment for uniformly distributed loads being taken at not less than  $W \times L$

12.

C—The floor plate to the extent of not more than 15 times the width of any beam or girder may be taken as a part of that beam or girder in computing its moments of resistance.

11. Concrete in which crushed hard brick is used instead of crushed rock or gravel will be computed, subject to building inspector's approval.

12. The following rules to apply wherever armored concrete is used in any building:

A—A competent engineer shall make all computations and have full charge of the work.

B—A competent foreman or superintendent shall have direct charge of the work and have full control of the men.

C—Complete drawing and specifications shall be filed with the inspector of buildings.

## Want Southern Farm Land.

A colony of some 8 or 10 well-to-do families now living in Ireland has been organized to purchase a considerable tract of land in the South where the entire property can be developed jointly. Ample cash capital is in hand to purchase any property which may meet their views. The property should have not less than 2000 or 3000 acres of first-class farming land. Full particulars, with lowest cash prices, should be given. Address "Ireland," care Manufacturers' Record.

## Resorts of the South.

A beautiful specimen of artistic printing is "Summer in the 'Land of the Sky,'" a booklet issued by the passenger department of the Southern Railway, descriptive of the famous resorts of the Virginias and the Carolinas and other Southern States reached by the Southern. It contains many half-tone illustrations showing the most noted of North Carolina's pleasure resorts and boarding-houses, with rates of each. It is a most useful guide. Copies may be had upon application at ticket offices, or by addressing S. E. Burgess, traveling passenger agent, 317 North Charles street, Baltimore, Md.

## Review of the Baltimore Market.

Office Manufacturers' Record,  
Baltimore, Md., May 11.

The business of the Baltimore stock market during the past week was marked by considerable trading in investment securities. The speculative issues were for the most part rather quiet, but about steady. United Railways bonds were prominent to some extent, as were Seaboards, and the Atlantic Coast Line 4s attained an advance.

In the dealings United Railways incomes went from 49% down to 48%, while the 4 per cents sold between 90% and 90%: Light & Power 4½, 74; Consolidated Gas stock, 71½ and 72; Seaboard common, 8½ and 9; the preferred, 17½ to 18; the 4s, 69 and 69½; the 10-year 5s, 96 to 96%; the three-year 5s from 86½ to 87; Cotton Duck common, 2½; the 5s, 59½ to 60; G.B.-S. common, 4½; the incomes, 18 to 18½; the 1sts, 48 to 48½.

Bank stocks sold as follows: Union, 115; Bank of Baltimore, 103½; German Bank, 104; Mechanics', 28; Marine, 34; Citizens', 26½. Sales of trust-company stocks comprised the following: Baltimore Trust, 265; Continental, 102½ and 100%; International, 90½ and 91. Fidelity & Deposit sold at 130.

Other securities traded in were as follows: Baltimore City funding, 117; do. 5s, 1916, water, 117%; do. 4s, 1920, 109½; do. do. 1925, 112½; do. 3½s, 1930, 108; do. do. 1940, 109½; Atlantic Coast Line common, 107½ to 108; do. consolidated 4s, 94% to 96; do. new 4s, certificates, 83½; do. stock, Conn., 221; do. Conn. 5s, 112 and 113½; do. 4s, 90; Columbia & Greenville 6s, 117½; Georgia Southern & Florida 5s, 114%; Georgia Pacific 1sts, 123 and 123½; Georgia & Alabama Consol. 5s, 104½ to 105; West. North Carolina 6s, 116%; Wilmington & Weldon 5s, 117½; Metropolitan Street Railway 5s, 117½; North Baltimore 5s, 117%; Virginia Electric & Development 5s, 94; South Carolina 4½s, 113%; Florida Southern 4s, 91; Maryland Telephone 5s, 78½; Norfolk Railway & Light 5s, 80; Canton Company, 85% and 90; German Fire Insurance, 12½; Virginia Century, 94% and 95; Georgia, Carolina & Northern 5s, 109; Western Maryland new 4s, 86; Anacostia & Potomac 5s, 98; City of Knoxville 5s, 112½; Raleigh & Gaston 5s, 110½; Augusta Street Railway 5s, 101 and 101½; Northern Central stock, 90; do. 4½s, 109½; Norfolk & Carolina 5s, 115; South Bound 5s, 106%; Charleston Street Railway 5s, 104½; Macon Railroad & Light 5s, 92; Philadelphia Company convertible 5s, 98%; Knoxville Traction 5s, 101½; Baltimore, Catonsville & Elliott's Mills 1st 5s, 109½; Baltimore Brick common, 10; West Virginia Central 6s, 111%; Atlanta Consolidated Street Railway 5s, 106.

## SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended  
May 11, 1904.

	Par.	Bld.	Asked.
Railroad Stocks.			
Atlanta & Charlotte.....	100	155	165
Georgia Southern & Florida....	...	45	
Georgia Sou. & Fla. 1st Pref....	100	98	97
Georgia Sou. & Fla. 2d Pref....	100	60	66
United Railways & Elec. Co....	50	6½	6%
Seaboard Railway Common.....	100	8½	9½
Seaboard Railway Preferred....	100	17	17%
Lexington Railway Co.....	100	54%	60
Atlantic Coast Line.....	100	107½	108
Atlantic Coast Line of Conn....	100	221%	...
Citizens' National Bank.....	10	26½	...
Commercial & Far. Nat. Bank....	100	100	100
First National Bank.....	100	135	150
German Bank.....	100	103½	...
Mercantile National Bank....	100	178	179
National Exchange Bank....	100	180	190
National Howard Bank.....	10	11	...

National Marine Bank.....

National Union Bank of Md. ....

Third National Bank.....

Western National Bank.....

Continental Trust.....

Fidelity & Deposit.....

International Trust.....

Mercantile Trust & Deposit.....

Union Trust.....

Miscellaneous Stocks.

G. B. & S. Brewing Co.....

United Elec. L. & P. Pref....

Cotton Duck Voting Trust....

Consolidation Coal.....

George's Creek Coal.....

Consolidated Gas.....

Albany & Northern 5s.....

Atlanta & Charlotte 1st 7s, 1907....

Atlantic Coast Line Con. 4s.....

Char. Col. & Aug. 1st 5s, 1910....

Char. Col. & Aug. 2d 7s, 1910....

Columbia & Greenville 1st 6s, 1916....

Georgia, Car. & North. 1st 5s, 1929....

Georgia, South. & Fla. 1st 5s, 1945....

Georgia Pacific 1st 6s, 1922....

Petersburg, Class B 6s, 1926....

Piedmont & Cum. 1st 5s, 1911....

Raleigh & Augusta 1st 6s, 1926....

Richmond & Danville Gold 6s, 1915....

Savannah, Fla. & West. 5s, 1934....

Seaboard & Roanoke 6s, 1916....

Seaboard & Roanoke 5s, 1926....

Southern Railway Con. 5s, 1994....

Virginia Midland 1st 6s, 1906....

Virginia Midland 2d 6s, 1911....

Virginia Midland 3d 6s, 1916....

Virginia Midland 4th 1st 6s, 1921....

Virginia Midland 5th 5s, 1926....

West. North Carolina 6s, 1916....

West. Virginia Central 1st 6s, 1911....

Wilmington & Wel. Gold 5s, 1935....

Charleston City Railway 5s, 1923....

Charleston Con. Electric 5s, 1999....

Newport News & Old Pt. 5s, 1938....

Norfolk Street Railway 5s, 1944....

United Railways 1st 4s, 1949....

United Railways Inc. 4s, 1949....

Seaboard 4s.....

Seaboard 3-year 5s.....

Seaboard 10-year 5s.....

Augusta Railway & Electric 5s.....

Lexington Railway 1st 5s.....

Macon Railway & Light 5s.....

Georgia & Alabama Con. 5s.....

Mt. V. & Woodly's Cot. Duck 5s.....

Mt. V. & Woodly's Cot. Duck Inc. ....

G. B. & S. Brewing 3d 4s.....

G. B. & S. Brewing 2d 4Incomes....

United Elec. Light & Power 4½s....

Atlanta Gaslight 1st 6s, 1947....

Consolidated Gas 6s, 1910....

Consolidated Gas 6s, 1939....

111½ 114

112½ 113½

## New Corporations.

It is reported that a bank is to be established at Cherryville, N. C., by Mr. S. S. Mauney.

The Coal City Savings Bank is reported to have begun business at South McAlester, I. T.

It is reported that Mr. William Stokes of Santuck, S. C., will organize a bank at that place.

Reported that a national bank will be organized at Cedar Hill, Tenn., with Bascomb Burns as president.

The Calhoun National Bank has been organized at Calhoun, Ga., by P. M. Tate, Calhoun, Ga.; F. A. Cantrell, O. N. Starr and W. L. Hines.

The Bank of Kirkmansville has been incorporated at Kirkmansville, Ky., with \$15,000 capital, by Ike C. Adair, J. H. Row and J. W. Lacy.

E. P. Howis, J. M. Stephenson and others have incorporated the Bank of Morton at Morton, Scott county, Mississippi, with \$25,000 capital.

The Deposit and Savings Bank of Bowling Green, Ky., capital \$20,000, has been incorporated by J. F. Dunavan, R. K. McGinniss and W. H. Miller.

The Citizens' Building and Loan Association has been organized at Hallettsville, Texas, with French Simpson as president and T. Y. Hill, secretary and treasurer.

The Citizens' National Bank of Ennis, Texas, capital \$50,000, has been organized by J. Baldrige, P. Freeman, T. A. Ferry, S. P. Skinner and S. M. Dunlap.

The Greensboro Real Estate & Loan Co. of Greensboro, N. C., capital \$10,000, has been incorporated by Garland Daniel, H. I. Thompson and J. Stuart Kuykendall.

The National Bank of Union Point, Ga., capital \$25,000, has been approved. The organizers are R. F. Bryan, Harold Lamb, Samuel H. Sibley, H. F. Pittard and J. H. Sibley.

The Merchants' National Bank of Fort Smith, Ark., capital \$400,000, has been authorized to begin business. The officers are W. J. Echols, president; J. B. Wil-

liams, vice-president; C. S. Smart, cashier.

The Bank of Roxboro has been organized at Roxboro, N. C., with the following officers: E. B. Read, president; J. M. Blalock, vice-president; W. F. Long, cashier.

The new bank at Cotton Plant, Ark., has begun business; capital \$25,000; president, R. C. Lynch; J. J. Bowman, cashier; Dr. T. B. Bradford, secretary and treasurer.

The Mechanics' Savings Bank & Trust Co. has begun business at Memphis, Tenn. The officers are Wm. H. Kennedy, president; Thomas Dies, vice-president, and A. Y. Allen, cashier.

The Washington Trust Co. of Dallas, Texas, capital \$50,000, has been incorporated by Sidney Reinhardt, F. M. Ethridge, Rhodes S. Baker, Henry E. Jackson and Leon Blum, Jr.

The First National Bank of Lafayette, Ga., has been organized, with \$25,000 capital. The officers are: President, A. R. Steele; vice-president, R. N. Dickerson; S. A. Hunt, Jr., cashier.

The Citizens' National Bank of Ennis, Texas, capital \$50,000, has been approved. The organizers are J. Baldridge, Ennis, Texas; P. Freeman, T. A. Ferris, S. P. Skinner and S. M. Dunlap.

The National Bank of Norman, O. T., has been approved; capital \$25,000. The organizers are S. N. Brees, Bertha L. Brees, William R. Haines, Hannah F. Haines and Morton M. Flickinger.

The Farmers' National Bank of Center, Texas, has been approved; capital \$25,000. The incorporators are J. T. Norris, H. N. Runnels, F. C. Powell, R. J. D. Ellington, L. N. Crawford and S. T. Fleshman.

The Palmetto Investment Co. of Charleston, S. C., has received a charter; capital \$1000. The officers are: Edward W. Hughes, president; R. Bee Lebby, secretary, and W. S. Stewart, treasurer.

The First National Bank of Clifton, Texas, capital \$40,000, has been authorized to begin business with the following officers: J. W. Rudasill, president; G. J. Gibbs, vice-president and acting cashier.

The Bank of Hendricks at Hendricks, W. Va., capital \$25,000, has been incorporated by G. H. Marshall of Elkins, I. A. Canfield and Mike Finger of Hinton, C. D. Gillespie and G. E. Davis of Hendricks.

The Citizens' National Bank of Eldorado, Ark., capital \$50,000, has been approved. The organizers are John C. Ritchie, Alfred T. Tufts, Henry L. Berg, Henry W. Myar, W. W. Brown and J. F. Sample.

The First National Bank of Sebree, Ky., has been organized, with \$25,000 capital. The officers are J. B. Ramsey, president; Joel Bailey, cashier; W. I. Smith, vice-president. This is a conversion of the People's Bank.

The Darlington Securities Co. of Darlington, S. C., capital \$6000, has been granted a commission. The incorporators are W. M. Stevenson of Darlington, W. F. Stevenson of Cheraw and S. E. Corrigan of Society Hill.

The Citizens' National Bank of Pennsboro, W. Va., has been authorized to begin business; capital \$25,000. The officers are: E. J. Taylor, president; C. H. Broadwater, cashier, and C. R. Cunningham, assistant cashier.

Arrangements have been made, it is reported, by J. J. Rogers, president, and S. J. High, cashier, of the People's Bank & Trust Co. of Tupelo, Miss., to establish a branch bank at Nettleton, Miss., with Charlie Roberts as cashier.

The First National Bank of Greenwood, Miss., capital \$250,000, has begun business, with the following officers: E. R. McShane, president; A. McC. Kimbrough, vice-president; W. T. Loggins, cashier; A. R. Bew, assistant cashier.

The Stockmen's National Bank of Co-

tulla, Texas, capital \$60,000, has been authorized to begin business. The officers are: L. A. Kerr, president; T. C. Frost, vice-president; G. W. Henrichson, cashier; B. Wildenthal, assistant cashier.

The Independence County Bank of Batesville, Ark., capital \$50,000, has organized to begin business immediately. The officers are T. B. Padgett, president; Charles F. Cole, first vice-president; W. P. Blair, second vice-president, and C. H. Hogan, cashier.

The Bank of Hoschton has begun business at Hoschton, Ga.; capital \$25,000. The officers are: President, Dr. L. C. Allen; B. F. Wilson, formerly of Winder, cashier; directors, Dr. Allen, J. E. Hill, W. H. Toole, H. J. Lott, W. M. Smith, W. H. Cooper and J. N. Thompson.

The People's Bank has been organized at Breaux Bridge, La., with \$25,000 capital. The officers are: President, Joseph Pellerin; vice-president, Dr. H. P. Guibeau; directors, W. A. Adler of New Orleans, David Rees, J. O. Bourdier, Alexander Pellerin, Joseph Pellerin, L. Dupuis and Dr. H. P. Guibeau.

The Citizens' Bank of Huntingdon, Tenn., capital \$25,000, has begun business. The officers are: President, Judge Wilson Enochs; vice-president, John Spellings; cashier, A. W. Foster; directors, W. T. Hale, William Boone, A. W. Foster, J. S. Johnson, Wilson Enochs, W. E. Hailey and M. F. Fry.

The Southern Investment & Securities Co. of the United States, capital \$125,000, has been incorporated under the laws of Delaware by J. T. Warner, J. M. Watkins, C. H. Hogan, R. H. Waddell, Dr. G. W. Reynolds and E. M. Young of Batesville, Ark.; O. S. Goodman of Calico Rock and R. T. Wade of Louisville, Ky.

The Twin City Bank of Argenta, Ark., has been incorporated, with \$50,000 capital, to succeed Fauchette Bros.' Bank. The officers are J. P. Fauchette, president; John T. Vogel, vice-president; O. B. Anderson, cashier; J. E. Williams, attorney; directors, J. P. Fauchette, W. C. Fauchette, O. B. Anderson, J. M. Griffin, John C. Vogel, J. M. Branch, H. Ellenwood, J. E. Williams and A. M. Machin.

The Guardian Insurance Co., capital \$50,000 to \$100,000, has been chartered at Norfolk, Va. The officers are: President, David R. Creecy, Jr.; vice-president, Frederick A. Beall of New York, N. Y.; secretary and treasurer, George L. Currier; assistant secretary, Frederick White of New York, N. Y.; assistant treasurer, John M. Gorham of New York; directors, David R. Creecy, Jr., Edward W. Wollcott, Frederick A. Beall, Albert H. Butler and A. C. Wilcox of New York.

The Commonwealth Life Insurance Co. of Louisville, Ky., capital \$200,000, has been incorporated by J. D. Powers, David Meriwether, C. C. McClarty, Samuel B. Kirby, Thomas Bohannon, Jr., Alexander Gilman, J. P. Satterwhite, Willis S. Muller, James B. Steedman, A. E. McBee, Andrew Brondum, D. E. Mapother, Isaac P. Miller, Biscoe Hindman, Madison Miller, Warwick Miller, Randolph H. Blain, John L. Depen, W. W. Thum, Augustus E. Wilson, A. E. Mueller, T. G. Stewart, C. M. Lindsay, Embry Swearingen, Arthur Rutledge, William E. Riley, William O. Wetterer, J. E. Hagan, J. W. Guest, Walter S. Adams, E. W. Bentley, Norbourne Arterburn, J. H. Caperton, Henry L. Stone, L. W. Sanders, Augustus Straus and John S. White.

The Bank of Waterproof at Waterproof, La., has published its charter; capital \$25,000. The stockholders are L. B. Robinson of Centerville, Miss.; S. W. Martin of Mouticello, La.; G. C. Goldman of Goldman, La.; B. B. Parham and H. H. Wilcox of L'Argent, La.; N. B. Hunter, L. B. Hunter, Louis T. Hunter, Guy N. Hunter, B. C. Andrews, R. N. Hunter, F.

Massony, V. Massony, W. D. A. Gorton, P. J. Seaman, A. P. Martin, P. L. Bellinger, J. Edwin Slicer, M. Kullman and D. J. Shelton of Waterproof, La., and J. G. Harris and F. O. Adams of Locust Ridge, La.; Monroe Scharff, Jonas Marx, B. B. Dreyfus and Ike Scharff of Natchez, Miss., and A. H. Buie of Vicksburg, Miss.; directors, N. B. Hunter, president; B. C. Andrews, vice-president; S. W. Martien, W. D. A. Gorton, F. Massony, P. L. Bellinger and M. Kullman.

The Southern Trust Co. of Indian Territory has been chartered at South McAlester, I. T., with authorized capital of \$500,000, of which \$200,000 is paid up. The officers are: C. S. Cobb, president; W. B. Munson, first vice-president; S. P. Ancker, second vice-president, all of Denison, Texas; E. C. Million, third vice-president; C. B. Burrows, secretary and treasurer, both of Nebraska; S. P. Ancker, assistant secretary and treasurer; E. S. Legate, trust officer; A. G. Moseley, counsel, all of Denison; directors, C. C. McCarthy, C. S. Cobb, M. J. Sweeney, W. S. Hibbard, Franz Kohfeldt, R. D. Birne, A. F. Platter, A. G. Moseley, H. Brooks, J. B. McDouall, W. B. Munson, R. S. Legate and S. P. Ancker of Denison, and C. B. Burrows, A. S. Burrows, E. C. Million and T. F. Memminger of Nebraska. The principal office will be at Atoka, I. T., with branches at Coalgate, Tishomingo and elsewhere. It is stated that the new company has taken over the Citizens' Bank & Trust Co. of Coalgate and will convert it into a national bank with capital of \$50,000 and surplus of \$15,000.

#### New Securities.

Aberdeen, Miss.—The city is to vote on June 14 upon an issue of \$70,000 of 6 per cent. water, sewer and electric-light bonds.

Athens, Ga.—Clarke county has sold to the Georgia National Bank of Athens \$100,000 of 4 per cent. road-improvement bonds at a premium of \$25,000.

Austin, Texas.—The State board of education has purchased for the school fund \$10,000 of Arlington school bonds, \$23,000 of Caldwell county refunding bonds and \$8000 of Waples school bonds.

Anadarko, O. T.—The city has sold the water and sewer bonds for \$30,050 to the John F. Luneren Company of Chicago.

Birmingham, Ala.—The city has sold the \$200,000 of school bonds, recently voted, at par to the A. L. Rich Company of Cincinnati.

Charleston, S. C.—The Atlantic Coast Lumber Corporation has filed a mortgage to secure \$3,000,000 of 5 per cent. bonds.

Columbia, Tenn.—The city has voted to issue \$30,000 of bonds to fund the floating debt.

Dallas, Texas.—It is proposed to issue \$50,000 of 4 per cent. Oak Cliff improvement bonds.

Elberton, Ga.—The issue of \$40,000 of water-works bonds has been confirmed by the court, and they will be sold.

Falls Church, Va.—An election will be held on May 12 to vote on an issue of street bonds.

Floresville, Texas.—The attorney-general has approved \$10,000 of 4 per cent. water bonds issued by Floresville.

Greenville, Miss.—The Mississippi levee commissioners have sold the balance, amounting to over \$900,000, of the issue of \$1,000,000 5 per cent. bonds through McDonald & McCoy of Chicago at par.

Hico, Texas.—The comptroller has registered \$3500 of Hico City Hall bonds.

Jackson, Miss.—The State will receive bids on July 9 for \$500,000 of 30-year 3½ per cent. bonds.

Jackson, Miss.—The city has sold \$25,000 of fire-department bonds to Fuller, Parsons & Snyder of Cleveland, Ohio, at par, interest and a premium of \$1375.

Jackson, Miss.—The city has sold the

\$25,000 of fire bonds to Fuller, Pearson & Snyder of Cleveland, Ohio, at a premium of \$1375.

Jackson, Tenn.—Seasongood & Mayer of Cincinnati have notified Madison county that they will purchase \$100,000 of good-roads bonds.

Keyser, W. Va.—The election to vote on \$20,000 of 5 per cent. school bonds is to be held May 21.

Lexington, N. C.—An election is to be held on June 7 to vote on an issue of \$60,000 of street, water and electric-light bonds.

Magnolia, Miss.—The city has sold the \$25,000 of water and sewer bonds to Trowbridge & Niver of Chicago at a premium of \$1275.

Montgomery, Ala.—The city has voted to issue \$350,000 of bonds, of which \$200,000 are for water-works, \$100,000 for schools and \$50,000 for sanitary sewers.

Roanoke, Va.—The city council is considering a plan to issue \$25,000 of 4 per cent. school bonds.

Sulphur Springs, Texas.—The attorney-general has approved \$65,000 of Hopkins county 4 per cent. courthouse and jail refunding bonds. The former bonds were 5 per cents.

Taylor, Texas.—The city council has passed an ordinance to issue \$25,000 of 5 per cent. city hall bonds.

Waxahachie, Texas.—S. P. Langford, chairman of the finance committee, will receive bids until noon on May 20 for \$25,000 of 5 per cent. water-works bonds and \$5000 of 5 per cent. water-works refunding bonds.

Yoakum, Texas.—An election is to be held May 31 to vote on \$14,500 of bonds to liquidate the floating debt of the city.

#### Financial Notes.

The Santa Fe Bank of Newkirk, O. T., has increased its capital from \$40,000 to \$50,000.

The Bank of Abbeville at Abbeville, La., has decided to increase its capital from \$50,000 to \$100,000.

The Morgan County Bank at Madison, Ga., has decided to increase its capital from \$25,000 to \$50,000.

The First National Bank of Birmingham, Ala., has issued a handsome calendar printed on heavy paper. Illustrations presenting interior and exterior views of the bank appear on the different pages. Another illustration produces a fine bird's-eye view of the city.

The Tennessee Bankers' Association has elected the following officers for the ensuing year: President, W. H. Rivers of Elgin; first vice-president, J. L. White, McKinney; second vice-president, C. A. Beasley, Richmond; secretary, J. W. Butler, Clifton; assistant secretary, W. M. Windom, Farmersville; treasurer, Samuel Webb, Albany. The next annual convention will be held at Dallas.

Spencer Trask & Co., New York investment bankers, are offering to investors at a price to yield about 4.45 per cent. the refunding mortgage 4 per cent. gold bonds of the Metropolitan Street Railway Co. of New York city. These bonds were issued to retire \$1,500,000 first mortgage 5s of the Broadway & Seventh Avenue Railroad Co. and other underlying obligations of the Metropolitan Street Railway. Dividends at the rate of 7 per cent. per annum are guaranteed upon the \$52,000,000 outstanding capital stock of the company, which has a present market value of \$57,000,000.

#### For the New Baltimore.

In rehabilitating Baltimore every care will be taken by architects and owners of buildings to adopt the most modern forms of construction for minimizing the possibilities of fire. Until recently but little study had been given to reducing interior fire hazards, the great care taken to make buildings fireproof being confined to struc-

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tural features. But during the past several years the introduction of office furniture and supplies made of metal has been steadily growing, and by their use the occupant of the building affords protection for his valuable papers, office records and other business data. A Western manufacturer making a specialty of such fireproof furniture finds the demand large and continually increasing. The furniture referred to is made of open-hearth, cold-rolled, pickled and double-annealed steel. It includes office desks, tables, filing devices, card-index cases, vault and counter fittings, lockers, door and window trim, etc., in perfect imitation of the various woods. It is fire resistant, vermin and dust proof, sanitary, and economical, its cost being but little in excess of similar articles made of wood.

Messrs. Hall, Headington & Co., 409 N. Charles street, Baltimore, have secured the sole agency for this equipment, and are exhibiting a full line of samples. They are prepared to furnish it in Maryland, Virginia and West Virginia. †

#### Southern Railway

1000 and 2000-mile tickets on sale at office, 317 North Charles street. The best way to travel in the South. †

